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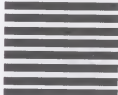
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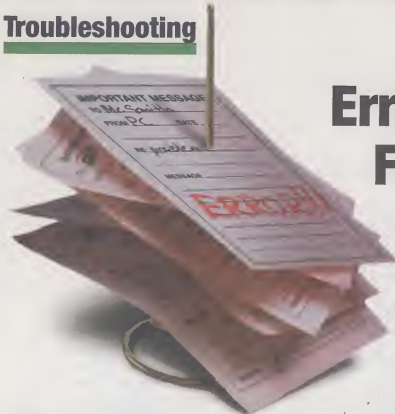
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Error Messages: Friend Or Foe?

Turn These Annoying Roadblocks Into Insightful Guides



Some things are just not meant to be discussed in polite company: topics such as politics, foot funguses, and error messages. And yet, life demands that tedious topics—even computer error messages—be addressed in a serious manner. After all, millions of people every day become the unsuspecting victims of these unexpected on-screen blurbs. It's high time we do something about them.

Error Messages Defined. Error messages are warnings or alerts that appear on-screen when something is about to go wrong or already has gone wrong. They can occur for any number of reasons, great or small. Paper jams, data corruption, unsuccessful access to a Web site, faulty software installations, and lost data files are just a few of the reasons why you might receive an error message.

The most common reactions to error messages are disbelief and anger. Perhaps this is unfair. Error messages are actually a necessary and valuable part of the computing experience. Like an honest friend who lets you know when you've really screwed up, error messages point out computing mistakes that you must recognize. Programmers insert them into applications intentionally, not for the purpose of annoying the masses, but as a way of helping you use their products more effectively. Consequently, you should embrace your error messages and learn everything you can about them.

And you can learn a lot about them. Error messages are like fingerprints; they are unique

identifiers of singular problems. The untrained user may not be able to read them or decipher their meaning, but the meaning is undoubtedly there, just waiting to be discovered. All it takes is a little knowledge, such as learning when error messages are most likely to occur and what the most common types of error messages are.

■ **When Errors Occur.** Error messages may seem to pop up out of nowhere, but the fact is that most of them are linked to one of five major computing operations.

Operating system installation. An improperly installed OS (operating system) will cause error messages to crop up all over the place. Consider the fact that Windows 2000 puts more than 7,000 files on a hard drive during a basic install. Any incongruity among those files, even something as minute as a missing or mistaken bit (the smallest unit of digital data) in a random string of code, can prompt an error message to occur. Moreover, because the OS serves as the foundation on which all other applications run, the smallest error in it can lead to bigger errors in something else. Examples of errors related to a faulty OS installation include missing files, unrecognized hardware, and system failure.

Software and hardware installation. The installation of hardware and other software must be considered no less a cause of error messages than the installation of an OS. In fact, the addition of hardware and software may result in the generation of even more error messages

than those caused by the OS. Why? Because each software application and hardware peripheral must prove itself compatible—not only with Windows, but also with everything else installed on the system. Improper hardware and software installations can trigger error messages that involve missing files, unrecognized software, and unrecognized hardware.

Computer startup and shutdown. Your PC contains several files that only come into play during the startup and shutdown routines. If something happens to one of these files in the middle of a computing session (for instance, you accidentally delete one when you're clearing out your Temp folder), the computer doesn't care because it doesn't need the file at that time. However, the next time that you start your PC, the absent file might become dreadfully apparent. You may face a similar situation when you shut down. In either case, you're likely to encounter a missing or damaged file error message.

Opening and closing a program. Error messages that pertain to opening and closing an application are similar to those that occur when you start up or shut down your PC, except on a smaller scale. If a necessary file was corrupted or inadvertently deleted, the application may not recognize such a mistake until you open or close it. These error messages often indicate a reference to the missing or damaged file.

Pushing the extreme. You're bound to run into error messages when you push your computer to the extreme. Such conditions that can create problems for your PC include a full hard drive, not enough memory, or even something as simple as running an application for an extended period of time. It's difficult to determine all of the various error messages you might receive as a result of extreme computing, but the majority are likely to take the form of a runtime error or GPF (general protection fault).

You Know The Type. Learning to recognize and understand the differences among the most common types of error messages is a necessary part of a well-rounded computer education. Fortunately, it takes little training to become skilled at distinguishing among errors and error messages.

Fatal exception error. Such errors occur when an application or the OS attempts to perform an illegal operation (unauthorized or unintelligible action). These illegal operations include trying to execute an invalid instruction or access a nonexistent component. Fatal exception errors affect the system in many ways, but they typically cause the system to lock up or crash unexpectedly. The best fix is to reboot. Fatal exception errors, which include the notorious Blue Screen Of Death, are also called fatal errors. If you see the word "fatal" in your error message, your PC has just been hit by a fatal exception error.

GPFs. These errors, which are also known as application errors, indicate some sort of conflict within an application or between an application and the OS. A GPF may occur when an application makes an illegal request for system memory resources, for instance. An application that experiences a GPF typically locks up (is unresponsive). You might be able to recover from the GPF by using the CTRL-ALT-

DELETE key combination to shut down the application. A reboot might also be necessary. GPFs may or may not be accompanied by error messages. Those that are will include the words "general protection fault" or "GPF."

Invalid page fault. Invalid fault? Isn't that a double negative? Nevertheless, these minor errors strike when a program makes an illegal request for data from the virtual memory (an area of the hard drive that supplements system memory). Either the data does not exist, is already in use by another application, or is corrupt. In any case, these errors rarely affect the entire system. Restarting the affected application should resolve the issue. Invalid page faults may be labeled as illegal operation errors. In this case, you'll find the words "invalid page fault" in the Details section of the message.

Runtime error. Runtime errors are, quite simply, errors that occur while an application

is running. You may get a runtime error if an application runs out of memory, hits some buggy code, or hiccups at an inopportune time. Fortunately, runtime errors rarely affect the entire system. You can resolve these problems by closing the affected application. The text of a runtime error message should identify the affected application.

Windows protection error. These errors, which are specific to the Windows OS, crop up when the OS is working with VxDs (virtual device drivers; software that helps Windows communicate with system hardware). The error message, which contains the words "Windows protection error," indicates that one of the VxDs is corrupt, missing, or otherwise

the real meat of the message, but you can do it. Simply start by reading the top of the message. Pay particular attention to the names of files and applications mentioned in the message, as well as to what type of error message it is.

As an example, let's say you receive the following error message: "Scandisk caused fatal exception 03H in module User32.dll." Such strange words and the odd assortment of letters may seem intimidating at first, but the message actually makes perfect sense if you calmly proceed through it. It merely states that one file (Scandisk) caused a fatal exception error in another file (User32.dll). You may not understand exactly how these files relate to one another, but you know which files are involved

in the error and what type of error message it is. That's a good start. See the "Anatomy Of An Error Message" sidebar for more details.

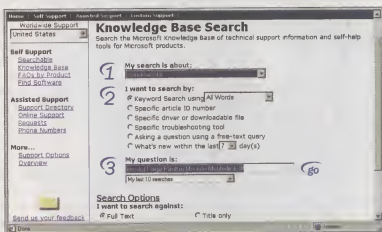
When you receive an error message, you should also write it down. Copy the message text verbatim. Even if it appears unintelligible to you, the message probably has some meaning to a support technician who can help you solve the problem.

Remember what you're doing. The next thing to do is take note of what you were doing immediately before the message appeared on-screen. Did you open an application? Install a hardware peripheral?

Delete some files from the hard drive? Edit the Registry? It's likely that the preceding action spurred the error message reaction. This piece of information can help you resolve the problem and avoid it in the future.

Search for a fix. Once you've assessed the situation, it's time to find a solution. Don't make the mistake of assuming that the task of fixing error messages requires great technical know-how. If you can read and follow directions, then odds are good that you can resolve almost any error message that comes your way. The only trick is knowing where to look for the answer.

Generally speaking, the first place you should look for help is the Microsoft Knowledge Base (<http://search.support.microsoft.com>). The Knowledge Base is a searchable catalog of step-by-step solutions to common PC problems. You simply select the OS or Microsoft product that produced the



The Microsoft Knowledge Base helps you find solutions to common Windows-related problems, including pesky error messages. All you need to do is select the operating system you use and enter a few keywords from the error message. Matching results will display on-screen in an instant.

inaccessible. You may need to reinstall Windows to get around this one.

The Smart Response. Perhaps more important than learning a few facts about error messages is knowing how to respond when one actually hits your PC. The worst thing you can do is panic or fail to respond (other than to hit the restart button). Such actions can lead to data loss, file corruption, and more error messages. The key is to remain calm, stay in control, and follow these rules. For information about responding to specific error messages, see the rest of the articles in this issue.

Read the error message. It sounds obvious, but few computer users actually take time to read the text of an error message when it appears on-screen. The fact is that most error messages are self-explanatory. You may have to wade through a little technical jargon to get to

error message, and then enter some text from the error message in the search field. The Knowledge Base will return a list of matching errors and their solutions.

Alternately, if you suspect that the error message is linked to a particular application or component, then you should visit the support page of the software developer or hardware manufacturer's Web site. When you get there, review the list of FAQs (frequently asked questions) that applies to your product. You just might find a question that addresses the error message you see on-screen. It's also a good idea to check for downloadable updates or **drivers** (software that helps a hardware component communicate with the rest of the system) for your product. You can eliminate some

error messages simply by installing these downloadable fixes. For more information about finding technical assistance, see "Off The Beaten Path" in the online version of this issue.

Call in the big guns. Finally, you should be prepared to call on professional technical assistance for those error messages that just won't go away. The key here is to be prepared for the call before you make it.

The first bit of preparation you need to do before calling technical support is to determine which application or peripheral is causing your problem. You should know this already if you read the error message and took note of what you were doing when it occurred. Not only does this minimize the number of phone calls you have to make, but it also reduces any

costs involved in contacting technical support. Some companies, including Microsoft, require you to pay for some calls you make to technical support. It would be a pity to pay \$35 just to hear a support technician tell you to call someone else.

Next, gather the relevant information about your hardware and software. This information should include your customer identification or product serial number; relevant product version numbers; and major system specifications, such as the processor type and speed, the amount of installed memory, and the OS version. You should also have a log of the steps you've already taken to try to fix the error.

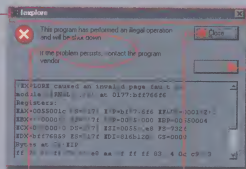
Finally, make sure you're sitting at your PC and that the error message is on-screen. If you can't replicate the error message on your computer, make sure you have the message written on a piece of paper (you did make a copy of the error message, right?). And because the support technician might ask what you were doing before the error message occurred, you also should have this information ready. For more details about calling technical support, see "Go To The Source" on page 139.

Anatomy Of An Error Message

Error messages are as unique as the individuals who write them and the situations that prompt them. That's one reason they're so darn hard to understand. Nevertheless, you can learn to spot the most important components of an error message. These are the common elements that will help you evaluate the problem and find a solution.

X Message Title Bar: The title bar is probably the first thing that catches your eye when an error message appears on-screen. Consequently, many software developers use this area of the message to present the information they want you to see first. It may be the name of the offending application, such as Microsoft Internet Explorer or Microsoft Word; a description of the error, such as Windows Protection Error or Critical Error; or an informative phrase, such as Insert Disk or Warning. And, if the error message was poorly designed, it may not say anything at all.

X Message Body: This is the most important part of the error message. The message body typically contains a description of the error and its cause, as well as an explanation of how you should deal with it. Pay special attention to the names of applications, hardware components, files, or modules mentioned in this area. Such information can tell you what part of the computer is producing the error. It may also help you figure out who to contact for assistance.



X Response Mechanism: The message response is where you get to decide how you want to react to the situation that caused the error message. It typically consists of a sentence describing your options and/or one or more buttons. Of course, the best response is always to follow the instructions provided by the error message. With this error message, the response mechanism is the Close button. Another example of a response mechanism is an error message that includes both a sentence instructing you to restart Windows as well as an OK button that you can click to execute the command.

X Details Button: Smart software developers often will hide complex technical information behind a Details button. The information that appears on-screen when you click this button will seem like nonsense to the average user. In most situations, you can ignore the gobbledygook and attend only to the part that's written in plain English.

■ **Avoid Disaster.** Of course, the best way to deal with error messages is to avoid them in the first place. You can do that by establishing a maintenance routine for your PC. Such a routine might include running ScanDisk once a week, running Disk Defragmenter once every three months, and setting your antivirus application to scan all new files automatically.

You also should exercise some preventative maintenance. Some of the best tips regarding this topic include backing up your important files every day; making sure you have an Emergency Startup Diskette on hand; and shutting down all open applications, including your antivirus software and programs running in the background, before you install a new program or peripheral. See "Routine Maintenance" on page 135 for details about creating a startup diskette.

Don't think you can stay away from error messages forever. One will eventually pop up on-screen, no matter how much you try to prevent it. That's not necessarily a bad thing. Now that you know what error messages are, why they occur, and how to respond to them, you can use them to your advantage and get on with your computing tasks. **LS**

by Jeff Dodd

Before You Troubleshoot

First Aid Tips For What Ails Your System

Error messages often make people react in strange ways. Some users may finally decide that it's time to read all of their users manuals, hoping to find answers. Others might try to recall every acquaintance that they have ever known in an effort to remember which ones knew even the slightest bit about computers. Then again, other users might be unable to react due to an overwhelming feeling of anxiety.

In some cases, it's hard to know where to even begin to fix a problem. It's also difficult to determine if the problem is something the user can fix, or if it's going to mean calling technical support.

Nevertheless, an error message doesn't have to cause heart palpitations. Before you begin frantically typing, restarting the computer, or calling all your techie friends, take a moment to go through this checklist. It will better prepare you for fixing a significant error, or help you overcome easy errors on your own.

■ **Check For An Obvious Fix.** Large portions of the error messages you will encounter are no big deal. They just inform you that you can't do something you want to do or ask you about a task you are about to perform. In most cases, these error messages can be dismissed by simply clicking the OK button.

For example, do you get an "out of memory" error message when trying to open another application? You probably just need to close a few applications so that your system has enough memory to operate. Or, do you see an error message on-screen that indicates your computer can't find a file? Chances are, it doesn't exist, it's been moved, or you're looking under the wrong name. What about an error message that says a site's server is unable to locate a Web address? Well, you probably

typed in the wrong URL (uniform resource locator; a Web address). Check the address for typos and try it again.

And in some cases, simply checking the cables and connections for your peripherals to make sure they are firmly attached is enough to resolve an error. Not all errors justify a nervous breakdown. They are simply a way of letting your computer communicate with you.

■ **Jot It Down.** Eventually, however, you are bound to encounter an error message that you won't be able to fix so easily. Errors frequently occur because of interactions between programs or some bug within the OS (operating system). To fix the error, you need to know exactly when and where the problem originated.

Before you press ENTER, click OK, or restart your computer, you should make a note of the exact error message text. Error messages include major clues about what's wrong with your computer and how to attempt to fix the problem. Even if the

message is Greek to you, a technical support representative should be able to diagnose exactly what's going on. Or, at the very least, he will probably know where to start troubleshooting.

An error message includes a number of parts that indicate the source of the problem. For example, in most Windows applications, error messages will feature the title bar of the relevant application at the top of the error window. That way, you know which applica-

tion is experiencing a problem or conflict. These windows may even include a Details button. Click this button to see technical information about the modules in which the error occurred. Make sure you write down this information (including any numbers) so you have some specific details to pass on to technical support.

Device errors commonly involve hardware and drivers. However, if you see an error message that doesn't offer an application name at the top of the window, it might be a little more difficult to fix. Moreover, error messages that appear within the diagnostic test the computer performs every time it boots (called the Power On Self Test) can indicate serious problems or conflicts. These error messages may only display as a "file error" followed by a number. And

they may not include any indication on how to fix them. For more information about dissecting error messages, see "Error Messages: Friend Or Foe?" in this issue.

If you want to be able to pass along exactly what's on-screen at the time of the error, you can take advantage of documentation programs such as Dr. Watson to take a picture of your screen. In Windows, you'll first need to start the Dr. Watson program and set it to run in the background as a TSR (terminate-and-stay-resident program). Once an error occurs again, Dr. Watson takes a picture of the screen and lets you enter information about what you were doing at the time of the error. For more information, see "Pictures Last Longer" in this issue.

■ **Always Perform Backups.** If you've concluded that the error has nothing to do with loose cables, you didn't ask for the wrong file, and the drivers for your hardware devices aren't to blame, you are probably going to have to do some tinkering with your



system if the same error message continues to annoy you.

Whenever you alter your system, you should always make a second backup copy of your important files on removable media, such as a floppy diskette, Zip disk, or CD-RW (CD-rewritable). That way, if something happens to prevent you from accessing your files and forces you to wipe your hard drive clean and start over, you at least have a copy of crucial files that aren't easily replicated. Besides system and Registry files, don't forget to make a copy of irreplaceable files such as your financial records, important documents, e-mail correspondence, and graphics. For more information about how to back up files, see "Hold It!" in this issue.

Next, make sure you have the installation CD-ROMs and diskettes for the OS and all your applications. You should also be sure to make an updated Emergency Startup Diskette just in case you need it to reboot the computer. For more information about how to create a startup diskette, see "Routine Maintenance" in this issue.

■ **The Shutdown.** Occasionally, you might see a blue screen featuring an error message and a lot of gibberish, with no escape in sight. This is often referred to as the "Blue Screen of Death." It doesn't necessarily mean the death of your computer, though. It indicates that something has caused your software or hardware to freeze and bring your entire system to a screeching halt.

In this case, your only way out might be to shut down the computer and restart it (after you've taken note of the error message, of course). If the problem was a simple, one-time glitch, restarting your computer might take care of the problem. But if the error happens again, you'll need to rethink what you did immediately before the blue screen made its unwelcome appearance.

Sometimes the problem resides in the application you are operating, and for some reason or another, it has stopped responding to the computer's requests. To find out if it's the program at fault, use the three-finger salute by pressing the CTRL-ALT-DELETE keys on your keyboard at the same time. This will open a window displaying all of the programs, files,

and utilities currently running on your computer (even those that typically run in the background without your knowledge). If one of the programs has stopped responding, it will indicate "Not Responding" after the file name in the window.

To close the offending program, select the file name and click End Task. Another window may open telling you that the program isn't responding again. If you're sure you want to close the program (knowing that any unsaved information associated with it will be lost), go ahead and click End Task. Hopefully, by doing so, you will be able to continue working with your other open applications so you can save your documents and close any other files safely. Then, be sure to restart your computer before attempting to open any programs again.

Restarting the computer can fix many jams. However, if there's a conflict with your hardware devices or with your OS, be sure to start Windows in Safe mode so you can get back into the OS to fix the problem. For more information about Safe mode, see the articles in the OS sections of this issue.

■ **Uninstall & Start Over.** If you've attempted all the easy fixes and restarted your computer, but you still continue to get an error message on-screen, you may need to uninstall a particular hardware device or application that you recently installed. Once you've uninstalled the offensive device or application, perhaps you can begin to figure out what went wrong or where the conflict started so you can fix the problem and safely reinstall the device. (Again, before uninstalling anything, don't forget to complete the "Always Perform Backups" steps we discussed previously.)

If you're deleting software, make sure you use the uninstall option provided by the application, and if one isn't available, uninstall the application using Add/Remove Programs in the Windows Control Panel. This prevents bits and pieces of programs from being left behind to interfere with future applications. Once you've removed the software, restart the computer to see if that resolved the problem. Before reinstalling it, it's a good idea to close

any screen savers, utilities, or antivirus programs that may be running in the background. You don't want other applications to interfere with a clean installation the next time around.

If you're removing a hardware device, properly shut down your OS and turn off your PC first. For external devices, disconnect the peripheral you suspect of causing problems from the computer case and unplug the device from the surge protector or wall outlet. For internal devices, unplug all of the equipment from the electrical outlet and open the computer case. Don't touch any of the internal components until you ground yourself by touching something metal on the outside of the case. This will eliminate static electricity buildup and prevent you from damaging an internal component with a static discharge when you touch it. Now you can remove the internal device in question, close the computer case, reattach and plug in all of the cords, and turn on your system.

For more information about troubleshooting components and applications, see the hardware- and software-specific articles in the OS sections of this issue.

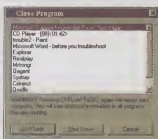
■ **Use Your Resources.** Don't limit yourself to the documentation that many companies include with their hardware and software products. Check their online sites to find patches and workarounds or call their technical support hotline. Chances are that you aren't the first person to experience this problem. You might find the answer you're looking for featured on the support page or in the FAQs (frequently asked questions) section.

In addition, while at a hardware manufacturer's site, see if you have the most current driver available for a particular device. Keeping drivers up-to-date can prevent a number of common problems.

Checking Microsoft's site for any OS and program updates might also provide a significant improvement. Some helpful Microsoft URLs to visit are Windows Update (<http://windowsupdate.microsoft.com>), Microsoft's Download Center (<http://www.microsoft.com/downloads>), and the Knowledge Base (<http://search.support.microsoft.com>).

And don't forget about the Help menu. Clicking Help from the Start menu displays another arsenal of troubleshooting tools. Search for specific error fixes or use the available wizards and tutorials to walk step by step through the solutions Microsoft suggests. **15**

by Cindy Krushenitsky



When you press CTRL-ALT-DELETE, the Close Program window lets you see if a program has stopped responding. Here, you can click End Task to close a specific program and then save your open files in other programs before restarting your computer.

Hold It!

Back On Up & Get Your Data In Order

An accidental kick or bump to your computer while data is being written to the drive can cause permanently damaged bad sectors. A power outage or surge can scramble a drive's contents and/or fry its circuitry. Mother Nature claims her rightful share of drives by unleashing floods, fires, earthquakes, and other disasters. And ultimately, drives simply grow old and fail.

Conversely, data loss and corruption aren't always hardware problems. Software designed poorly can overwrite or delete files your system needs to operate properly. A malicious hacker or virus can also destroy data. Whether these failures happen periodically or simultaneously, your hard drive will eventually be unusable and data such as tax returns, family photos, and critical business files will be difficult, expensive, or impossible to replace.

The good news is that by employing some sensible, affordable measures, you can save most, if not all, of your data. But don't put it off because you suspect backing up is labor-intensive or expensive; both preconceptions are untrue. By following some good advice, backup can be easy, cheap, and effective.

■ **An Ounce Of Prevention.** There are preventive measures to take to reduce the risk of a disaster. A few common ones are listed here:

- Edit your Windows Registry as a last resort. The Registry is Windows' cerebral cortex, and if you don't know what you're doing, you can find yourself with an unusable system before you can mumble, "abort, retry, fail."
- Obtain a good system utilities package. A program like Norton Utilities (<http://www.symantec.com>; \$49.95) can stop many crashes before they happen. Be aware that a system utility meant to improve system performance can cause crashes and isn't a substitute for backing up. Older versions of Norton AntiVirus, for example, were infamous for dragging down a system's performance and depleting resources.
- Keep emergency boot/repair diskettes nearby. Boot diskettes help access your system when your hard drive fails. Consult

the help files for your operating system to make an emergency boot diskette in case your system becomes unbootable. If you're a Windows NT user and haven't created emergency repair diskettes for your system, you may find yourself without a way to reboot if something goes wrong with your system configuration. Windows 2000 forces you to create emergency disks, so guard them carefully. Create these diskettes as soon as possible if you haven't already and run ScanDisk on them periodically to check for media defects.

- Replace hard drives before they go bad. Warning signs include exceptionally slow performance, bad sectors appearing in ScanDisk, and noticeably louder grinding noises coming from the drive. Installing and copying data files to another drive is relatively easy. However, program files can't be effectively moved without special copying software.

■ **Back Up That Data.** There are essentially three kinds of backup: full, selective, and incremental varieties. Each type should have its own place in your backup strategy.

Full backup. A full backup archives everything on your drive, down to system files and icon shortcuts. Obviously, the more you archive, the longer the backup takes. System segments several megabytes large may require switching tapes or discs in the middle of a backup session. This can be a nuisance if you're running a session in the middle of the night. Full backups also require a greater investment in media and more time to record data. Hence, they tend to be done more infrequently, which

might result in losing recent data if you must restore your system.

Performing a full backup does save time spent later in restoring data. Consider the hours or even days it might take to hunt down source discs and Web sites for all your applications and reinstall each one. By performing full backups, you merely need to insert the backup media, activate the restore function, and walk away. In a while, your old configuration restores to where you left it.

Selective backup. This type of backup preserves only designated files. Selective backups involve a subset of files, so they don't require the same storage capacity as a full backup. That can save you time and money on backup media. However, anything you don't back up may be lost forever. This puts a particular burden on the user to decide which files are really essential and which ones might be expendable or easily re-created, such as a program on a CD-ROM. If a selective backup doesn't save all necessary system files (and it should), a selective backup won't rescue you from a system failure, and you may find



yourself reinstalling your operating system, despite your backup efforts.

Incremental backup. This backup type complements either full or selective backups. Once you back up a file, you don't need to copy it again unless there's a change to the data. Incremental backups only archive files that have changed since the previous save. Since this is apt to be a small number of files compared to the original set, incremental backups are a timesaving way of maintaining current information. The trade-off is that if you want to restore your system to the most current state of your incremental backup, you have to restore the full backup first, then the most recent incremental backup.

■ **The Usual Storage Suspects.** As hard drives continue to grow larger in size, they are outstripping the capacity of removable media to store such titanic amounts of data. This has two undesirable side effects when backing up. First, you'll likely have to buy a higher capacity and/or higher-speed backup solution, which means cash out of your pocket. Second, the larger hard drives get, the more media space you'll likely consume. Thus, you'll have to use multiple tapes or discs when performing a backup. This requires someone to be present to pull one disc out and insert another. In general, the bigger the storage media is, the better it is.

Once you identify the information to back up and the best method to archive it, you can select an appropriate storage medium. Over the years, a handful of conventional solutions have proven to be the best choices for small businesses and consumers. We'll cover these first.

Storage media. Even the cheapest IDE (Integrated Drive Electronics) hard drives now have storage sizes of 10GB, so the days of doing a full backup to 1.44MB floppy diskettes, 120MB SuperDisks, or 250MB Zip disks are long gone. However, these smaller formats may still be an option for incremental or selective backups, depending on how much data you need to back up.

For full backups, tape drives are the best choice. Since they generally hold a few hundred megabytes to 30GB or more on a single tape cartridge, it's less likely you'll need to span media. In addition, tape drives are a great deal in terms of storage megabyte for the dollar. A drive supporting 8GB tapes can be found for around \$200, with the tapes costing about \$30 each. Tapes are considered very reliable for storing archived data and can be rewritten to dozens of times before straining

the tape's integrity. Conversely, it can take hours to back up your system to tape drives, particularly using consumer-level drives. In addition, tape drives have little use other than holding archived data.

Optical storage alternatives address many of tape's shortcomings. CD-R (CD-recordable) and CD-RW (CD-rewritable) discs with 650MB or higher capacity are making optical storage an increasingly popular choice for at-home multimedia enthusiasts. Virtually all recordable CD drives now support both CD-R and CD-RW formats, with many drives costing less than \$150, which is comparable to the cost of an inexpensive tape drive. Best of all, media is inexpensive, with a pack of 100 CD-R discs costing around \$30.

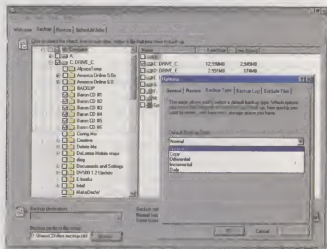
CD-R discs can be written to just once, so they are probably best suited for archiving information headed for deep storage. CD-RW discs can be written to thousands of times, making them an excellent option for selective and incremental backups. A CD-RW disc costs about \$1 to \$2, but if you use one disc repeatedly, it becomes more cost-effective than CD-R.

Like CD-RW, recordable DVD technology is just beginning to become a viable option in the small business and consumer arenas. DVD-RAM drives (roughly \$500) support media with a 4.7GB capacity per side. Discs are about \$30 each for single-sided, and about \$55 for double-sided. These drives offer a fast, flexible option for users that want DVD player compatibility.

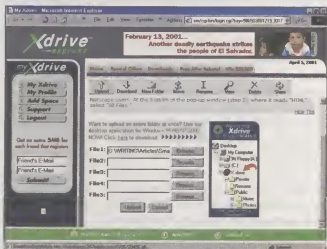
■ **The Not So Usual Suspects.** Sometimes, the old ways aren't always the best ways. The upside to using lesser-known solutions is that they often offer a user a unique value in cost, performance, or

convenience. The downside is that lesser-known solutions have less support in the market and may disappear sooner than more established options.

For a terrific tape alternative, give consideration to OnStream's (<http://www.onstream.com>) ECHO 30GB. OnStream uses a tape technology called ADR (Advanced Digital Recording), which assures excellent data accuracy, but at the cost of backup speed. The Internal IDE drive sells for just \$199 (cartridges are \$44.95 each) but has a transfer rate of only 3.6GB per hour. The \$299



MS Backup does a reliable, fairly comprehensive job of backing up files to any target drive, including across a network. The program has numerous backup methods and a clean, simple interface.



Xdrive lets new users store up to 25MB of secured files online. Services like this offer a new level of convenience for backing up data.

USB (Universal Serial Bus)-based external drive is only slightly slower at 3GB/hour.

Overall, plummeting drive prices mean external hard drives have at last become available to many users. Barraging interface

restrictions, such as the 1.5MB/sec ceiling in the current USB protocol, external hard drives can perform nearly as fast as their internal counterparts, making them ideal for road warriors needing portable backups. A 40GB external KanguruDisk hard drive from Interactive Media (<http://www.kanguru.com>) now costs about \$250, although you'll spend another \$100 or more for adapters and cables for your specific needs. The drawback to external hard drives is that they're as prone to damage as regular hard drives and are considerably more expensive to replace than traditional media.

An increasing number of broadband users, particularly those spending considerable time on the road, are turning to online storage services. To back up, you simply upload the files to the secure service. To restore, just download the data. This method eliminates worries of theft, fire, or unforeseen problems.

A primary concern with online storage is bandwidth. A backup of 2MB to 3MB of critical system and data files can take just a few minutes over a 56Kbps (kilobits per second) connection. Doing a complete system backup with dial-up is virtually impossible. Even with broadband speeds between 500Kbps and 3Mbps (megabits per second), a full backup can be lengthy. The good news is that once you've done a complete system backup, incremental follow-ups only take a few minutes.

The plans and pricing for online storage services can vary widely between providers, but we recommend starting your search by checking out SkyDesk's @Backup (<http://www.atbackup.com>). Also, check out ManagedStorage (<http://www.managedstorage.com>) and Xdrive Technologies (<http://www.xdrive.com>).

■ How Often To Back Up? There's no right answer to this question. The longer you wait between backups, the more information you stand to lose if something goes wrong. Most people are fine with weekly scheduled backups. Those working at home or keeping timely information on their computers should consider nightly backups. Ask yourself, "If my computer crashes today, how much information can I afford to lose?" If the answer is "none," do nightly backups.

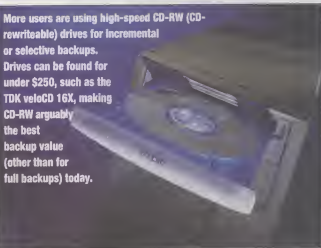
A good plan for average users is doing a full backup at the beginning of the month and then

incremental backups every Monday and Thursday. This blends comprehensive coverage with regular backup of critical data, without requiring too much time or intervention.

Most backup drives include at least one decent utility to perform and automate backups. In a sense, this software is more valuable than the drive. The majority of users perform backups infrequently, if at all, mostly because of a human tendency to procrastinate and forget. Let the software be your conscience and memory. Nearly all consumer-level solutions reduce backups to a handful of wizard-aided steps to accommodate all possible backup methods and schedules.

■ Backup Software. There are plenty of software backup solutions to choose from. Microsoft even bundles a simple, scaled-down utility called Backup with Windows.

More users are using high-speed CD-RW (CD-rewritable) drives for incremental or selective backups. Drives can be found for under \$250, such as the TDK veloCD 16X, making CD-RW arguably the best backup value (other than for full backups) today.



While Backup isn't particularly strong in the scheduling area, it does offer an effective answer for users with humble needs and a humbler budget.

PowerQuest (<http://www.powerquest.com>) offers a backup tool called Drive Image (\$69.95) that skips empty space on your hard drive, saving time and archive space without sacrificing data integrity. The program supports spanning, including across optical discs. One drawback is that there is only limited selective backup support. You can either back up an entire drive or a partition, but backing up single files or folders is not supported. However, you can restore individual or grouped files.

While not strictly a backup tool, Roxio's GoBack (<http://www.roxio.com>; \$49.95) archives various versions of files and makes restoration a snap. GoBack takes ongoing snapshots of your files and configuration, letting you

revert to any point in your system's history after GoBack is installed in the event of a data accident or accidental erasure. You can choose any version of a file you wish to restore from an Explorer-like interface and click it to restore it.

V Communications' AutoSave (<http://www.v-com.com>; \$49.95) is a stellar incremental solution to consider. After selecting a target drive or directory, AutoSave makes a backup to that location of each file you create or save. You can exclude certain file types, such as GIFs (Graphics Interchange Format) or TMPs (temporary), and specify how many file versions should be saved. This way, you never have to think about how or when to back up your key work files. Whenever you work on files, the backup is done automatically in the background.

■ Make Life Easier. Organization is the key to successful archiving. When you begin using a new application, such as Word, the software typically defaults to saving user files in a sub-directory within the program's own folder. If you're using 10 such programs, this means you have to remember 10 directories when selecting particular folders to back up. Instead, consider creating a new folder in which you'll place all of your work files. For instance, your main file folder might be called WORK. You could then have subfolders called C:\WORK\WORD or C:\WORK\PHOTOSHOP with subfolders under each of these as needed. Thus, when you are designating folders to back up, you need only select one folder, such as C:\WORK, and all subfolders will be automatically included. Most applications will let you change the default storage directory to this new location.

The more time you spend working with your software, the more shortcuts you'll discover for bettering your risk management at little or no cost. Most important, however, is not becoming lax and assuming accidents won't happen. Long-term luck only happens to those prepared to be lucky, so purchase your hardware wisely and stretch your backup software to its full potential. After your first hard drive crash, the time and money you spend in preparation will be amply repaid. [E]

by William Van Winkle

Pictures Last Longer

Troubleshooting Programs Document What Happened When



The longer you work on computers, the more error messages you will see. For the average computer user, these messages are often dreaded (because you cringe when they pop up), ignored (because you click close and keep on truckin'), or documented (because you write yourself a note and try to figure it out later). While dreading or ignoring an error message may be the gut reaction to potential trouble, documenting your problems is probably the best thing to do if you want to fix what's wrong.

You don't have to be a "techie" to document error messages, but you do want to give this information to a "techie" so that problems can be traced and corrected. What's the best way to document your errors? Use the technology that's out there.

There are some software programs available to help you log errors. For program errors, Dr. Watson does the trick in Windows. To track

Communication errors, users turn to the free-ware HR Plus. These two programs make it much easier to keep track of what happened in your system when a fault occurred.

You can also track errors that affect your computing activities but are actually occurring at the server level or the Web browser level. By tracking these errors and submitting them to their respective administrative people, their engineers can trace and hopefully fix the problems that end up plaguing you at your workstation. Two programs that allow you to do this are Perfect Tracker and Netscape's Quality Feedback Agent.

■ **Dr. Watson.** If you are running Windows 98, 98 Second Edition, or Millennium Edition, you already have a powerful, built-in error documentation tool: Dr. Watson. Dr. Watson logs program faults, taking a snapshot of the

software environment at the time of the error and giving you the option to save the information so that you can review the problem with an expert. Most people use Dr. Watson in one of two ways. First, if your faults are intermittent, you may want to use Dr. Watson as a silent partner by placing him in the Startup folder so that he is always running and available when you need him. Second, if you are trying to diagnose a problem that you can reproduce, you may prefer to start Dr. Watson and then reproduce the fault.

When working to document a reproducible fault, start Dr. Watson by clicking the Start button and opening Run. In the Run window, type Drwatson and click OK. You can also open the program by clicking the Start button, pointing at Programs, Accessories, and System Tools, and clicking System Information. In the System Information Window, select Dr. Watson from the Tools menu. When you have enabled Dr. Watson, its icon appears in the System Tray.

You may want to take a snapshot of your system before you reproduce the fault. Do this by double-clicking the Dr. Watson icon in the System Tray.

When a program fault takes place, a Dr. Watson dialogue box pops up, advising you that an error has occurred. You just need to click OK and let Dr. Watson do his work. He will take a snapshot of your system under the error conditions. Next, a diagnosis window comes up. Within that window, there is a text box where you can describe what you were doing when the error occurred. This window will also have two menu options: File and View. Under File, you can choose to Save the information you just typed, or you can choose to generate a printout. Under View, choose either Standard or Advanced View. The Advanced view will provide detailed information about Diagnosis, System, Tasks, Startup, Kernel Drivers, and User Drivers.

Although Dr. Watson is configured to log errors, it is still a good idea to save your diagnosis results by going to the File menu and selecting Save As. The default folder for Dr. Watson logs is C:\WINDOWS\Drwatson. Files saved will have a .WLG extension. If you prefer hard copy, you can print the diagnosis, also found in the File menu.

If you are hoping to document that maddening and elusive fault, it is best to put Dr. Watson into your Startup folder. To do this, right-click the Start button and select Explore. In the Explorer window, click the plus sign

next to the C: drive (or whatever is designated as your hard drive), click the WINDOWS plus sign, the START MENU plus sign, and the Programs plus sign. Click the STARTUP folder to highlight it. Its contents will show in Explorer's right panel.

Next, go to the File menu and choose New and then Shortcut. In the Command Line, type `c:\windows\drwatson.exe`. Click Next and then Finish. When you reboot, Dr. Watson will run in the background and his icon will appear in the System Tray.

■ **HR Plus.** HR Plus is another program that helps you keep track of system or communication error messages. It generates a report when you type or copy the hexadecimal or decimal value of the error into the Error Value textbox. Like Dr. Watson, HR Plus is free; but unlike Dr. Watson, it must be downloaded off the Internet (<http://www.softstyle.com>).

The download time is quite short and worth your effort. HR Plus supports a large number of software and hardware error codes and exceptions. One big advantage with this nifty freeware program is that it gives you additional information about errors, including the Header file where the ERROR ID is declared. It also allows you to look up error codes.

To look up the codes, just enter the error value (the number Windows provides when advising you of an error) by either typing it in or pasting it in the Error Value box and clicking Look Up or Look Up Modules. The program then fills text boxes with information that provides you such things as the Error Type and the Source Error File. If you want even more details, or would like to type in any information about the circumstances surrounding the error, click HResult Generator. A disadvantage of HR Plus is the temporary nature of the information it provides. It doesn't have a simple save function. If you want to save the information, you need to copy it into Notepad or a word processing document. If you don't copy the report that is generated, you will need to tackle the problem while the information is there, which is a more difficult

task if tech support isn't readily available when needed to fight through the error.

■ **Perfect Tracker.** Perfect Tracker, by Avensoft, is a program that allows users to send error information to their server administrator. While it may not be helpful in tracking and logging error messages that are particular to your own computer, it will provide error information that pertains to the network and ultimately affects you at your workstation. If you believe that errors are being generated at the network level, you might want to suggest the use of this type of program. Perfect Tracker is costly (nearly \$1,000). The only requirement for the workstation is that it has a Web browser installed. Information on Perfect Tracker can be found at <http://www.avensoft.com/home.html>.

■ Netscape Quality Feedback Agent.

If you use Netscape 4.5 or higher, you can use its Quality Feedback Agent to easily report problems. Quality Feedback Agent, a software program that comes embedded in Netscape, gathers information about the circumstances of a Netscape crash. The first time Netscape crashes, you will be asked if you want to send this information on. If you answer Yes, a wizard takes you through a simple setup. If you say No but later change your mind, activate the program by clicking the Start button, pointing at Programs, pointing at Netscape Communicator, opening Utilities, selecting Netscape Quality Feedback Agent, clicking Settings, and choosing Turn Agent On. (You can choose Turn Agent Off following the same steps.)

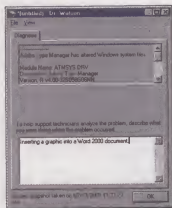
When the program is on, it gathers information about the state of Netscape at the time of a crash. A text box awaits for you to

describe what you were doing when the crash occurred. You are always given the option to view the information by clicking Show Details. If you intend to keep a log for yourself, you can copy and paste the details into a text program. You can choose to send those details to Netscape.

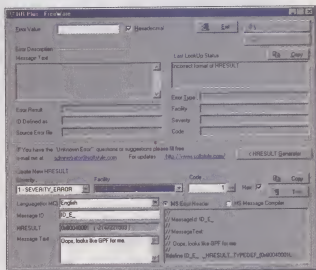
While this program can't help you log information specific to your system, it will provide Netscape engineers with the kind of information they need to isolate the reasons for crashes and hopefully correct problems.

■ **Internet Explorer.** If you use Microsoft's Internet Explorer, there is a feedback procedure built in for submitting error information that you have logged. Although it is less intuitive than Netscape's Quality Feedback Agent, you may want to take advantage of it if you are trying to log IE errors. You can access this procedure under the Help menu by choosing Send Feedback.

No matter why you choose to keep track of errors and faults, doing so will make a diagnosis easier. Having concrete information about the environment at work in your computer at the time of the error makes for faster problem solving. But it is good for you



When Dr. Watson takes a snapshot, users have the opportunity to write down what they were doing when the fault occurred.



Enter the Error Value in and HR Plus will generate an analysis.

mental health to remember that there will always be error messages generated by a totally random problem that you will never see again—they are just a way of life in the world of Windows. **LA**

by Jan Knudsen

Windows 98/Me Installation

Overcome Introductory Setbacks



There are numerous problems that can arise while running Windows' installation program, Setup, to install Windows 98 or Windows Me. The Setup program will let you know when any of these problems develops by showing you an error message and giving you one or more alternatives. In many cases, you must resolve the problem before Setup will let you continue the installation process.

We list many of the error messages you are likely to see, explain them in plain English, and offer potential solutions. If you need more information, you can read the Setup.txt file on the installation CD-ROM, search the Microsoft Knowledge Base (<http://search.support.microsoft.com>), or contact Microsoft for help.

Also, please note that the text you see for each of these error messages might be slightly different than what is shown on-screen for you. The is because error messages evolve between releases of Windows.

■ **Problems Starting Setup.** Some problems will prevent Setup from starting or cause Setup to fail soon after starting. We'll discuss some error messages associated with these types of problems in this section.

*** Error Message:** "Invalid product key" or "The product key is not valid."

Translation: When Setup asks for the product key (also known as the product ID), you typed it incorrectly in the field provided.

Solution: The product key from one version of Windows will not work with another version so you must have the one that came with the installation CD-ROM that you are currently running. If you cannot find it, you can contact Microsoft Product Support Services for a new key.

This error message can also occur by having antivirus software running while trying to use the Setup program. If that's the case, unload the antivirus software and rerun Setup. On rare occasions, a damaged CD-ROM can also cause this error message. With this type of problem, you'll need to contact Microsoft for a replacement CD. On very rare occasions, you'll see this error message if you enter the product key numbers using the numeric pad on the keyboard rather than the numbers along the top.

If you are installing an international version of Windows, Setup will sometimes use the U.S. keyboard layout rather than the correct international layout. If this happens, you must type the Product Key using the U.S. keyboard layout. For example, the German layout places the Y and Z keys in a different spot than the U.S. If you were installing a German version and your product key included a Y or Z, you would have to enter them from the U.S. position.

*** Error Message:** "Setup was unable to determine your computer's hardware configuration. Setup cannot continue and will now close."

Translation: Setup cannot identify one or more of the hardware devices connected to your computer, such as a network card or tape drive. Since it cannot identify the hardware, it will not be able to load the proper drivers. To avoid problems, Setup stops. This is tough error message to deal with because Setup does not tell you specifically what is causing the problem.

Solution: It is likely that this error is being caused by an older device. You can search for the problem device by detaching the hardware devices one at a time, rebooting, and rerunning Setup. If it works, you know you found the problem device. But if Setup fails again, reconnect the disconnected device and move on to the next one. Once you have Windows installed, you will have to manually configure it to use the problem device.

*** Error Message:** "Setup did not find enough free directory entries in the root of the following drives. Please delete some

files or directories to make enough room..." or "Setup did not find enough free directory entries in the root of your startup drive. Please delete some files or directories to make enough room, and then run Setup again. Setup needs at least XX more free entries on this drive." (or a similar message)

Translation: Setup has tried to create a file on the boot drive (usually C:) and has failed. This is almost always caused by having too many files in the root directory of the C: drive.

Solution: Unlike folders, the root directory is limited to 512 files. If you are approaching this number, you need to create another folder and move some of the files and folders from the root directory into that folder. Alternatively, you can delete unneeded files and folders from the root directory.

*** Error Message:** "Your computer already has an operating system installed, which cannot be upgraded by this version of Setup..."

Translation: This is generally caused by an incorrect version of the Setupx.dll file being loaded into memory.

Solution: To correct the problem, restart the computer in MS-DOS mode and issue these commands:

```
CD \windows\system
RENAME setupx.dll setupx.01
RENAME setupx.w95 setupx.02
```

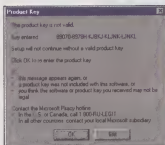
Now, restart your PC and run Setup again.

*** Error Message:** "Setup is already running." or "Cannot start more than one copy of the specified program."

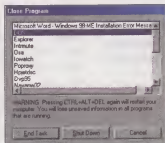
Translation: You tried to start a second session of Setup while the original session is still in memory. This usually happens when you have a slow CD drive because it takes so long to start Setup when you insert the installation CD-ROM that you think it's not starting and decide to start Setup manually.

Solution: No damage has been done; just exit the second session of Setup.

■ Recover From Failure. Some errors are significant enough that they cause Setup to fail in the middle, perhaps even causing your computer to become unbootable. These error messages are discussed below.



The Windows 98 and Windows Me installation program, Setup, will not run if you enter an invalid product key.



The Close Program dialog box makes it easy to close DOS programs. Just click the DOS program you need to close, and then click the End Task button.

folder but fails before copying them all. Some of the steps to resolve this problem require issuing a series of commands at a DOS prompt. If this concerns you, you may want to ask for assistance from a knowledgeable friend or associate.

Solution: Reboot from the startup diskette. When prompted, select Minimal Boot. At the command prompt, type `sys c:` and press ENTER. If you receive a "System Transferred" message, your computer should now boot into WinMe.

If you receive this message: "Cannot find the system file in the standard locations on drive c:\. SYS can only be used on drive c:\ to attempt a repair of an already existing installation of Windows," place the WinMe CD-ROM in the CD drive and reboot from the startup diskette. When prompted, select "Start Computer With CD-ROM Support." At the command prompt, enter the following commands:

```
Smartdrv
extract /l c:\temp x:\win9x\precopy1.cab
winboot.sys
c:
cd \
attrib ios.sys -s -h -r
ren ios.sys *.bak
cd \temp
copy winboot.sys c:\ios.sys
```

Note that the `x:` in the second line should be the drive letter for your CD-ROM drive. If you only have a single hard drive, this will usually be `d:`. Once this is complete, remove the floppy startup diskette and reboot your computer. If this does not resolve the problem, you will need to rerun Setup from the command prompt using the startup diskette.

*** Error Message:** "Error SU0409."

Translation: This error is caused when you try to run Setup while the program GoBack is running. GoBack allows you to uninstall (and go back before) most software installations, but it cannot uninstall Windows.

Solution: You must exit Setup, disable or close GoBack, and then rerun Setup.

*** Error Message:** "Setup has detected the following decoding error: Could not decode this setup (.CAB) file..." or "Setup has detected a corrupt setup (.CAB) file..."

Translation: Many of the files required by Setup are stored in compressed files called CAB (cabinet) files. These are a holdover from the days when Windows was installed from floppy diskettes and each file needed to fit onto a single diskette. Setup is telling you that it was unable to read one of these CAB files.

Solution: The most common cause of CAB errors is a dirty CD-ROM so you should first try cleaning it. If you have the space, you should also create a temporary folder on your hard drive, copy the CD-ROM files to that folder, and then run Setup from your hard drive. Copying the files is less prone to errors than running Setup from the CD-ROM, so this may allow you to work around an otherwise unusable installation CD-ROM.

As a bonus, Setup will run much faster, and if you leave the files on the hard drive after the installation, Windows will use them when you add or remove programs rather than requesting the CD-ROM.

Less frequently, this problem can be caused by a defective CD drive, a virus, or low

conventional memory. If other CDs work on this drive, you can eliminate the CD drive as a cause for the problem. Otherwise, you will need to replace the drive. If the computer is on a network, you can also copy the Setup CD-ROM to the hard drive using the network. An antivirus program can check for and eliminate a virus, and editing your Autoexec.bat and Config.sys files, as described above, can free up conventional memory.

* Error Message: "Windows Millennium setup cannot continue."

Translation: This error is caused when you copy the Setup CD-ROM to the hard drive and one of the CAB files is corrupt. The most common cause is a dirty or scratched CD-ROM.

Solution: Try cleaning the CD-ROM, recopying the files, and rerunning Setup. Other, less likely causes include a virus and a failing hard drive. You should run an antivirus program to check your system and run ScanDisk to check your hard drive for problems. If none of these options resolves the problem, then it's likely that the CD-ROM is damaged and must be replaced by your vendor.

* Error Message: "Drive C, your Windows drive, or the drive you are installing to is compressed."

Translation: Users could boot prior versions of Windows from a compressed drive, but with WinMe, they can no longer do this. In fact, WinMe offers very limited support for compressed drives.

Solution: You must run DriveSpace to remove the compressed drive before running Setup. If you are so low on hard drive space that you must use compression, you need to either delete numerous files or upgrade to a larger hard drive before trying to install WinMe again.

* Error Message: "Setup cannot write to the temporary directory."

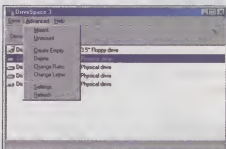
Translation: Windows uses a special folder (usually C:\WINDOWS\TEMP) to store working files. This can be changed to another folder (or even another drive). According to the message, it currently has too many files in it. Temporary files can accumulate every time you do not shut down your computer properly.

Solution: Either reboot and immediately delete all the temporary files, or edit your

Autoexec.bat file to point to a location with more space.

* Error Message: "Setup could not check the hard drives on your computer."

Translation: Setup runs ScanDisk to check and correct hard drive problems before installing the new version of Windows. However, it runs ScanDisk with minimal options. Setup is telling you that ScanDisk



Use DriveSpace to remove all compressed drives on your hard drive before installing Windows Me because it will not recognize them.

found errors that it could not correct in its minimal configuration.

Solution: You should abort Setup and run ScanDisk as a standalone application, with no other programs running in the background. Perform a complete check of your hard drive. Only after ScanDisk reports no errors should you rerun Setup.

If, after this, Setup still will not run and you are sure your hard drive is error-free, you can run Setup with the "/IS" switch to bypass running ScanDisk. However, if there are still problems with your hard drive, you are running the risk that your computer will not be bootable after Setup is done. This option should only be used by expert users.

* Error Message: "The directory X you specified contains a Windows NT installation. Setup cannot install Windows in this directory. Please choose a different directory." or "The directory X contains a Windows NT installation. Setup cannot install into this directory. Setup will choose a directory for you, which you can change later."

Translation: You can install WinMe or Win98 so that they overwrite a prior version of Win9x, but you cannot install them where they overwrite a version of Windows NT.

Solution: You must install WinMe or Win98 into another folder so you don't overwrite WinNT files.

* Error Message: "The directory XX you specified contains an MS-DOS installation. Please choose a different directory."

Translation: You have told Setup to install Windows into a folder that already contains an older version of DOS.

Solution: Setup will not overwrite these files so you must select a different folder.

* Error Message: "Cannot continue on this system configuration."

Translation: This error message is usually caused by an older, incompatible drive partition. Because Windows will not support the current hard drive configuration, Setup will not continue.

Solution: You will need to perform a full backup and then repartition and reformat your hard drive before running Setup.

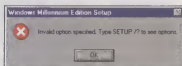
* Memory Snags. Setup problems involving memory are much less common with Win98 and WinMe than they were with Windows 95 because few computers are optimized for DOS operation.

Once you have freed up memory, you may run into other Setup problems, such as your clock speed being below 150MHz. If you are running into memory problems on an older computer that is being upgraded from DOS, you should consider upgrading to

a new computer.

* Error Message: "Out of memory while processing cabinet file."

Translation: You can receive this error message if you reboot from the startup diskette, select the Minimal Boot option, and then try to extract a CAB file. This is caused because the Minimal Boot option does not load the memory management software needed to use the program that extracts files from the CAB files.



When you run the Setup installation program from a DOS prompt, you can specify command line options using switches. Setup checks these and will not run if you use invalid switches.

Solution: You must reboot and select one of the other boot options in order to run Setup.

* Error Message: "SU99xxxx"

Translation: SU99 is the prefix that Setup adds to all errors for which there is not a specific error message. The lack of specific information means that these are often the most difficult problems to track down and resolve.

Solution: These error messages are often caused by low memory so your first approach should be to rerun Setup from DOS. If that does not work, try copying the Setup CD-ROM to the hard drive and run Setup from there. If both of these do not work, you may need to seek expert help.

* Error Message: "SU0410"

Translation: Setup cannot open a file it needs. This is usually caused by inadequate memory.

Solution: Try freeing up conventional memory, as described above or running Setup from DOS. This message can also be caused by problems reading the CD-ROM. Try copying the Setup CD-ROM to the hard drive, as described above, and rerunning Setup from the hard drive.

■ On The Network. Some of the problems that the Setup installation program encounters only occur when your computer is connected to a network.

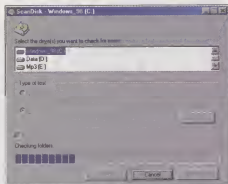
* Error Message: "Windows cannot

be installed onto a network drive in this mode. Type a local drive letter and directory name to specify where you want to set up Windows 98. An example of a valid entry is C:\WINDOWS."

Translation: When Setup asks for a folder to use to install Windows, you specified a folder on your network. Windows must be installed on a local drive, usually the C: drive, it cannot be installed on a network.

Solution: Specify a folder on your local hard drive.

*** Error Message:** "Setup was unable to configure your network components. To continue



Running ScanDisk before you start Setup can prevent many installation problems.

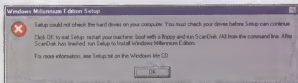
without network support, click Yes. To quit Setup, click No."

Translation: Your computer is configured to be on a network, but Setup cannot set up the hardware to match your network configuration. This is typically caused by the network not responding.

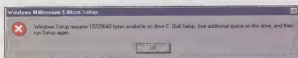
Solution: Make sure you are logged onto the network. Reboot and then make sure the network is responding.

*** Error Message:** "An error has occurred: To continue, press Enter to return to Windows or press CTRL+ALT+DEL to restart your computer. If you do this, you will lose your unsaved information in all open applications. NDISFLT(01) + 00000650 Error: 0E : 0028 : C14796F0."

Translation: You will receive this error message if you are upgrading a Win98 machine to WinMe and the computer is running Norton Internet Security 2000 Family Edition version 2.0 or 2.1, and the computer is logged onto a network.



Setup tries to check your hard drive before running the installation and will stop if it cannot perform this check. Also, ScanDisk will not run properly if other programs are accessing the hard drive. This is one reason why you need to close all programs while running Setup.



Setup will let you know if there is not enough free space to perform the complete installation.

Solution: There are three approaches to resolving this problem. First, disconnect the network cable and reboot. This prevents the computer from logging onto the network so you can run Setup. Second, restart the computer in Safe mode, uninstall Norton Internet Security, and then restart the computer and run Setup. The third approach is to update the Norton Internet Security software to the latest version using its LiveUpdate feature. Once the software is up to date, you can reboot and run Setup.

■ Miscellaneous Problems. The following are error messages we found that did not fall into any specific category.

*** Error Message:** "Setup has found a hardware device on your computer that is not responding. To try this device again, click Continue. If the problem persists, quit Setup and any other running programs, and then turn your computer off and back on again. Then run Setup again, and choose Safe Recovery when prompted."

Translation: A device, usually a network adapter, is connected to your computer but is not responding. The process Setup uses to check the status of installed devices may cause an older device to become unstable.

Solution: Turn the computer off and back on again. This reinitializes the device. If this does not correct the problem, you have a hardware failure. You will need to troubleshoot to find and correct the hardware device in question.

* Error Message: "Cannot Copy File."

Translation: Setup cannot copy one or more files to the hard drive; however, these files may not be essential.

Solution: Try skipping the file. If Setup does not finish or Windows will not run after the installation, boot from the Emergency Startup Diskette and run Setup from DOS.

*** Error Message:** "The directory you specified contains a version of Windows with a different character set. Setup cannot upgrade this version. Please choose a different directory."

Translation: You cannot upgrade a version of Windows running one

character set with a version of Windows designed to run a different character set.

Solution: You can install the new version of Windows into a different folder, as the error message suggests. Once you are satisfied with the new version, you will want to remove the old version from your hard drive.

*** Error Message:** "The specified directory contains a directory named desktop that you must move or rename before Setup can continue..."

Translation: Setup needs to create a folder called Desktop, but a file or folder already exists with that name.

Solution: You need to rename or move the current file or folder and rerun Setup.

*** Error Message:** "The Windows directory XX you have specified does not currently exist. Please verify that the path is correct."

Translation: Setup requested the name of your current Windows folder and you mistyped it (with XX representing the name you specified).

Solution: You need to enter the correct folder name.

*** Error Message:** "Setup cannot upgrade Windows. The directory XX does not contain a valid Windows installation. Please specify another directory."

Translation: Setup requested the name of your current Windows folder. You supplied a valid folder name, but that folder does not contain Windows.

Solution: You need to provide Setup with the name of the correct Windows folder.

*** Error Message:** "An unknown error occurred."

Translation: An error occurred for which Setup does not have an error message.

Solution: Try rebooting and rerunning Setup. If you receive this error again, contact Microsoft or the manufacturer of your PC for help.

*** Error Message:** "The directory XX cannot be created because a file already exists with that name. Click OK to rename the file XX to YY. Click Cancel to quit Setup."

Translation: You supplied Setup with the name of a folder to use (with XX representing the folder name you supplied and the current

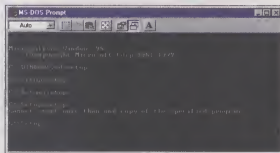
file name) when that name is already being used by a file. Files and folders cannot have the same name. Setup is going to let you rename the file so it can continue (with YY representing the new file name).

Solution: Supply a folder name that is not also the name of a file.

*** Error Message:** "An error has occurred: IFSMGR(04) + 000076A1 Error: OE0028: C02AF8E1."

Translation: This error message will be followed by three similar error messages when you press ENTER. It is caused by installing the program X:Drive 2.0 prior to WinMe.

Solution: You must uninstall X:Drive 2.0 using Add/Remove Programs in the Control Panel and rerun Setup. After WinMe is



During the installation, Setup will warn you if you try to run more than one copy of it at once.

installed, you can go to <http://www.xdrive.com> and download version 2.1 of the X:Drive software.

*** Error Message:** "The display failed to switch to graphics mode."

Translation: There is a problem with either your display card or monitor, causing your system not to switch to graphics mode.

Solution: You need to repair your hardware before running Setup again.

*** Error Message:** "Setup encountered a problem or did not complete a previous installation. If you click Use Safe Recovery, Setup will restart file copying where it left off. Not selecting Safe Recovery will restart the file copy process from the beginning."

Translation: You see this error message only when you follow a specific series of steps when you are installing Win98 or WinMe on a Win95 computer running Internet Explorer 4.0 or 4.01, and you uninstall and then reinstall Win98 or WinMe. You will be given two

options: "Use Safe Recovery" or "Do Not Use Safe Recovery."

Solution: This error message is a fluke and you can safely ignore it. You can use either option to continue running Setup.

*** Error Message:** "A fatal exception OE has occurred at 0028:C02B9568 in VXD IFSMGR(04) + 00012AEC. The current application will be terminated."

Translation: This error message is caused by running Setup while the Sysinternals Filemon.exe program is running.

Solution: Use CTRL-ALT-DELETE to close the Filemon.exe program and then rerun Setup. In general, you want to avoid running any other programs (even those running in the background) while Setup is running.

*** Error Message:** "Setup locks when you press CAPS LOCK."

Translation: This problem is caused by the keyboard controller. Some older controllers can stop responding if you press CAPS LOCK several times. Many people press CAPS LOCK when they start to enter the requested product ID at the beginning of the installation process and then again when they are done.

Solution: You can fix the keyboard controller problem by obtaining a BIOS upgrade from your vendor. You can avoid the problem by not using CAPS LOCK during Setup. Setup does not care if you enter the product ID in uppercase or lowercase characters.

■ Setup To The Rescue. While it is certainly frustrating to encounter any of these Setup error messages, they serve two critical functions. First, they prevent Windows from being installed on a system that is too slow, too old, or has too little hard drive space to run Windows. Second, they prevent Setup from encountering an error that causes Windows to be installed only partially on your computer. Because that can render your computer unbootable, you should be grateful Setup gives you the option of finding and correcting the problem in advance.

To review more of these error messages, you can access the Web-only portion of this article at <http://www.smartcomputing.com/learning/errors/98Meinstall>. [E]

by Ronny Richardson

Elevate Your PC to Home Theater Status



[Desktop Theater™ 5.1 DTT3500 Digital]

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Windows 98/Me Startup & Shutdown

The Problem-Free Way To Say
Hello & Goodbye



Startup and shutdown error messages have become rarities among users of Windows 98 and Windows Me, thanks to developments in OS (operating system) technologies. Nevertheless, active PC users are certain to encounter such error messages at some point. To help you deal with these messages, we have compiled a list of common startup and shutdown error messages and their solutions.

(NOTE: For all solutions, we used the letter A to represent the diskette drive; C to represent the hard drive where Windows is installed; and D to represent the CD-ROM drive. All error messages apply to both Win98 and WinMe unless otherwise specified.)

■ **Startup Error Messages.** You know you're having a bad day when the first thing you see upon booting (starting) your PC is an error message. The best way to deal with this situation is to grab a cup of your favorite caffeinated beverage, cancel your morning appointments, and start troubleshooting.

✱ **Error Message:** "Windows did not finish loading on the previous attempt. Choose Safe Mode to start Windows with a minimal set of drivers."

Translation: As part of its startup routine, Win98 creates a special file called Winbooting.sts.

This file assists the OS through the startup procedure and is deleted automatically after the OS has loaded properly. If something prevents Win98 from loading properly, however, then Winbooting.sts remains on the computer. That's bad. The next time you boot Win98, the startup procedure is disrupted by the presence of this file that shouldn't exist. As a result, Win98 presents this warning message directing you into Safe mode so that you can rectify the situation.

Solution: There are two ways of resolving this issue: one that is easy, one that isn't. Hopefully, you can take advantage of the easy method. From within Safe mode, open My Computer and double-click the icon that represents the Windows drive (the hard drive where Windows is installed). Locate the Winbooting.sts file and delete it, then reboot your PC.

If that doesn't work, then you must resort to the other solution. This one requires you to have your Windows Emergency Startup Diskette on hand. See "Routine Maintenance" for details about creating a startup diskette.

Open the Start menu and select Run. In the Open field of the resulting dialog box type `attrib -s -h -r c:\io.sys ren c:\io.sys c:\ioold.` Insert the startup diskette in the floppy diskette drive, open the Run dialog box again, and type `a:\sys c` in the Open field. After the OS copies the system files from the startup diskette to the hard drive, remove the startup diskette from the diskette drive and reboot the PC.

✱ **Error Message:** "Invalid system disk. Replace the disk and then press any key." or "Non-system disk or disk error. Replace and strike any key when ready."

Translation: When you boot your PC, it searches for instructions that will guide it through the startup procedure and launch the OS. The typical PC looks to the diskette drive first. If it doesn't find a boot disk (any storage media that contains the instructions for initializing the computer's startup routine) there, it searches the hard drive. You receive this error message when the PC either can't find a suitable boot disk or it runs into an unsuitable boot disk.

Solution: You're most likely to receive this error if you try to start your PC while there is a 3.5-inch diskette that is not a boot disk inserted in the diskette drive. Consequently, the first thing you should do upon receiving this message is remove any diskette that you find in the diskette drive. Press a key on the keyboard when you are ready to proceed. If this was indeed the problem, then your computer should start up as usual.

Unfortunately, you'll have to do a little more work to resolve the issue if you receive the same error message upon your reboot. Such an occurrence indicates bigger troubles: a virus has struck your hard drive, your antivirus software has gone awry, your third-party hard drive management software has gone awry, your security software is configured incorrectly, or there was a glitch during Windows setup. In the last instance, you will need to reinstall Windows. For all other causes, keep reading.

If you suspect the problem was caused by a virus, contact an antivirus software developer, such as Symantec (541/334-6054, 800/441-7234; <http://www.symantec.com>) or Trend Micro (949/387-7800; 888/608-1009; <http://www.antivirus.com>). Tell the customer service representative you have a boot sector virus and need an antivirus solution pronto. When you get the solution, which will probably come on a 3.5-inch diskette, run it and then reinstall Windows.

If you think the message was caused by something other than a virus and you run Win98, you can try to reinstall the system files from the startup diskette. Insert the startup diskette in the diskette drive and boot the computer. The computer will present a command prompt. At this prompt, type the following commands, pressing the ENTER key at the end of each line:

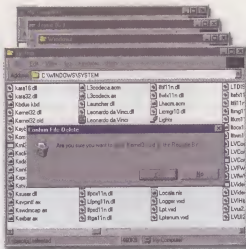
```
cd \windows\command
attrib c:\msdos.sys -s -h -r
copy c:\msdos.sys c:\msdos.old
a:
```

```
s:
attrib c:\msdos.sys -s -h -r
del c:\msdos.sys
copy c:\msdos.old c:\msdos.sys
attrib c:\msdos.sys +s +h +r
```

When you finish, remove the diskette from the drive and reboot the computer.

Alternatively, if you think your antivirus software or hard drive management software caused the error message, you should contact the software developer. Tell the support technician that you believe the application modified the BIOS (Basic Input/Output System; set of instructions that controls the system startup routine) or that it overwrote the master boot record (a set of instructions that tells the computer how to find and launch the OS). The support technician should help resolve the issue.

Similarly, if you think your security software is the culprit, then you should contact its developer. Ask the support technician how to



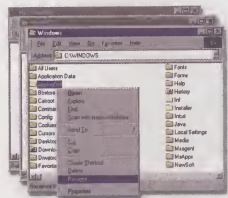
After ensuring that your extracted copy of Kernel32.dll eliminated the "Error Loading Kernel" error message, you can dig into the Windows\System folder and delete the Kernel32.old file.

remove the security software. The technician also should walk you through the process of reinstalling Windows so that you can boot your computer safely from the hard drive.

■ **More Sour Greetings.** When Windows starts the day in a bad mood, that's your first cue that it wants something from you. Here are some startup error messages that you might encounter if Win98 or WinMe is either missing components or files as it attempts to boot up or doesn't like the ones your system provides.

✱ **Error Message:** "Error loading kernel. You must reinstall Windows."

Translation: The Kernel32.dll file, which contains the Windows kernel (the collection of code on which the rest of an application is built), is corrupt or missing. This file represents the



Rename the Applog folder to ApplogOld, and then reboot your PC. That's all it takes to eliminate the "Taskmon caused an invalid page fault in module Kernel32.dll" error message.

heart of the OS, and Windows can't run without it. You need to get a valid copy of the Kernel32.dll file.

Solution: Despite what the error message states, it isn't necessary to reinstall Windows. All you need to do is extract the Kernel32.dll file from your Windows setup disc and copy it to the appropriate folder on your hard drive. This is a rather complex process that begins by booting to a command prompt and renaming the old Kernel32.dll file.

You can do this in Win98 by holding down the CTRL key as your computer starts up and selecting the Command Prompt Only option when the Win98 Startup Menu appears on-screen. In WinMe, you'll need to insert the WinMe startup diskette before booting your computer, and then select the Minimal Boot option from the WinMe Startup Menu. When the command prompt appears on-screen, type **c:** and press the ENTER key.

Regardless of which OS you use, type **cd \windows\system** at the command prompt and press the ENTER key. Next, type **ren kernel32.dll kernel32.old** and press the ENTER key. Now it's time to extract the new copy of Kernel32.dll from one of the .CAB files located on the Windows CD-ROM. Refer to the users manual or contact the computer manufacturer for information about where the .CAB files are located on your Windows disc.

Next, insert the Windows CD-ROM in the disc drive, put a startup diskette in its drive, and reboot your PC. When the Startup Menu appears, choose the Start Computer With CD-ROM Support option. At the resulting command prompt, type **extract /a d:\windows\cabs\base4.cab kernel32.dll /l c:\windows\system** (where **d:\windows\cabs** is the location of the directory where the .CAB files are located). The Base4.cab file is the first .CAB file on the Win98 installation disc or diskette, and therefore, it's the place where you want to start your search for the Kernel32.dll file. If you use WinMe, begin your search at the Base2.cab file.

After the extract procedure is complete, reboot your PC. Now that the Kernel32.dll file is firmly in place, it should start as expected. Once it appears that your system is running fine, you should go into the Windows\System folder and delete the Kernel32.old file.

✱ **Error Message:** "VFAT device initialization failed. A device or resource required by VFAT is not present or is unavailable. VFAT cannot continue loading. System halted."

Translation: Something has prevented the file system (method used to organize data on a storage device) from loading properly in Win98. As long as the file system is down, you cannot start your computer.

Solution: The steps you take to resolve this problem depend on what is causing it in the first place. There are six possible errors: a missing `lshlp.sys` file; an outdated link to the `lshlp.sys` file in the `Config.sys` file; a missing link to the `lshlp.sys` file in the `Msdos.sys` file; incorrect instructions in the `Msdos.sys` file; a misplaced `Winboot.ini` file; or an incorrect instruction in the `System.ini` file. The only way to tell which of these six is causing the problem is to work your way through each of the six solutions until you discover the error.

For all six solutions, you will have to start your PC using the Safe Mode Command Prompt Only option. To do so, turn on your PC and hold the CTRL key down until the Startup Menu appears on-screen. Select the Safe Mode Command Prompt Only option and press the ENTER key. Your computer then will present a command prompt in Safe mode. While the computer is in Safe mode, you will be able to change the system configuration.

1. Start by searching for the `lshlp.sys` file in the Windows folder. Type `cd windows` at the command prompt and press the ENTER key. Next, type `dir /p` and press the ENTER key. A partial listing of the contents of the Windows folder will appear on-screen. Press the ENTER key repeatedly to scroll through the folder contents. Peruse the contents of the Windows folder in this manner until you locate the `lshlp.sys` file. If you find it there, proceed to step 2 below.

If you can't find the `lshlp.sys` file, however, then you need to install a new one. Insert the Win98 CD-ROM in the computer's disc drive, put the startup diskette in the diskette drive, and reboot your computer. When the Win98 Startup Menu appears on-screen, choose the Start Computer With CD-ROM Support option. When you finally reach a command prompt, type `extract /a d:\windows\cabs\base4.cab lshlp.dll /l c:\windows` (where `d:\windows\cabs` is the location of the directory where the .CAB files are located).

The `Base4.cab` file is the first .CAB file on the Win98 installation disc or diskette, and therefore, it's the first place you want to start your search for the `lshlp.sys` file. After the extract procedure is complete, reboot your PC. If that solves the problem, then you don't need to continue with the remaining steps.

2. The next thing to do is check for an outdated reference to `lshlp.sys` in the `Config.sys` file. At the command prompt, type `cd...` At the resulting `C>` prompt, type `edit config.sys` to open the `Config.sys` file in a text editor. Scan the contents for any line that mentions `lshlp.sys`. If you don't find such a line, proceed to step 3.



One way to get rid of a "VFAT device initialization failed" error message is to check the contents of the `Msdos.sys` file. If you see that the `WinDir=`, `WinBootDir=`, and `HostWinBootDrv=` lines are configured incorrectly, then you've found the source of the problem.

Conversely, if you do find a line of this sort in the `Config.sys` file, then you should delete it.

After deleting the line, close the text editor by pressing the ALT-F key combination and selecting Exit from the drop-down menu. Save your changes when prompted to do so. Finally, reboot your system. Win98 will automatically install an updated reference to `lshlp.sys` in the `Config.sys` file. If you continue to see the error message after making this change, keep reading.

3. Win98 may have deleted the `Config.sys` file's link to `lshlp.sys` accidentally during the Setup process. If that happened, then Win98 will not install an updated reference to the file when you boot the computer and you will receive this error message. You can rectify the situation by manually adding a reference to `lshlp.sys`. Use the arrow keys to move the cursor to the bottom of the `Config.sys` file, and then type `device=c:\windows\lshlp.sys`. Close the text editor, saving your changes when prompted to do so, and reboot your PC.

Hopefully, the preceding step will have eliminated the error. If not, proceed to step 4.

4. You should ensure that the `Msdos.sys` file is properly configured. At the `C>` prompt, type `attrib -s -h -r msdos.sys` and press the ENTER key. Next, type `edit msdos.sys` and press ENTER. When the text editor appears on-screen, locate the [Paths] section of the file and make sure it contains the following three lines:

```
WinDir=c:\windows
WinBootDir=c:\windows
HostWinBootDrv=c
```

If you can find these three lines, skip to step 5. If you *cannot* find these lines, then you need to add them. Use the text editor to add the lines, then save the changes and close the text editor. At the command prompt, type `attrib +s +h +r msdos.sys` and press ENTER. Reboot your PC. If that solves the problem, then you don't need to continue with the remaining steps.

5. The error may be due to the presence of the `Winboot.ini` file on the boot drive. This file is used during Windows setup and should have been removed before you started using the OS. To eliminate it, type `del tree winboot.ini` at the `C>` prompt. Reboot your PC.

6. Finally, if you're still getting the VFAT error message, you need to edit the `System.ini` file. At the command prompt, type `cd windows` and press the ENTER key. Next, type `edit system.ini`. Peruse the contents of this file in search of a line that reads `MaxFile Cache=4096`. When you find this line, position the cursor at the beginning of it and type ; (a semicolon). Close the file, saving your changes, and reboot the PC.

Introductory Device Friction. Even OSes can get off to a rocky start, especially when devices, drivers (software that allows a hardware component to communicate with the rest of the system), and related files won't communicate properly. Here is what you can do to resolve these confrontations.

* Error Message: "Windows Protection Error"

Translation: A faulty device driver or some type of internal computer error is preventing Windows from starting up or shutting down. Windows is protecting itself from further harm by displaying this message.

Solution: Start by booting your computer in Safe mode. If it doesn't boot correctly in Safe mode, then you have two options: one, you should contact the manufacturer for assistance in verifying and correcting the computer's CMOS (complementary metal-oxide semiconductor; a circuit that contains a small amount of memory in which such information as time, date, and system setup data is stored) settings; or two, reinstall Windows.

That's the easy part.

If, on the other hand, Windows boots in Safe mode without any problems, then you need to figure out which file or application is causing the problem. That part is not so easy. To make things a little less difficult, we've divided this

section into two parts: one for Win98 users and one for WinMe users.

Win98. Open the Start menu and select the Run command. In the Open field of the resulting dialog box, type `msconfig` and click the OK button. The System Configuration Utility dialog box will appear on-screen. Select the General tab and click the Selective Startup option. Select the `Config.sys`, `Autoexec.bat`, `Winstart.bat`, and Startup Group options, then click the OK button and reboot the computer. If Win98 starts as it should (as in, without the error message), proceed to step 1 below. If it does not start as it should, keep reading.

Reboot in Safe mode and return to the General tab of the System Configuration Utility dialog box. This time, select the `Winstart.bat`, `System.ini`, `Win.ini`, and Startup Group options and reboot the computer. If Win98 starts as it should, proceed to step 2 below. Otherwise, keep reading.

Reboot in Safe mode and return to the General tab of the System Configuration Utility dialog box. Select the `Config.sys`, `Autoexec.bat`, `System.ini`, and `Win.ini` options and reboot. If the PC starts as it should, proceed to step 3 below. Otherwise, skip to step 4.

WinMe. Open the Start menu and select the Run command. In the Open field of the resulting dialog box, type `msconfig` and click the OK button. The System Configuration Utility dialog box will appear on-screen. Select the General tab and click the Selective Startup option. Select the `System.ini`, `Static.vxd`, and Startup Group options, then click the OK button and reboot the computer. If WinMe starts as it should, proceed to step 1 below. If it does not start as it should, keep reading.

Reboot in Safe mode and return to the General tab of the System Configuration Utility dialog box. This time, select the `Win.ini`, `Static.vxd`, and Startup Group options and reboot the computer. If WinMe starts as it should, proceed to step 5 below. Otherwise, keep reading.

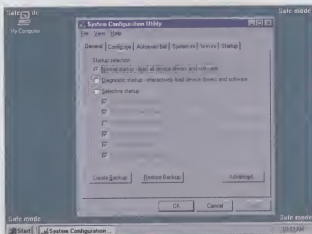
Reboot in Safe mode and return to the General tab of the System Configuration Utility dialog box. Select the `System.ini`, `Win.ini`, and Startup Group options and reboot the computer. If the computer starts as it should, proceed to step 6 below. Otherwise, keep reading.

Reboot in Safe mode and return to the General tab of the System Configuration Utility dialog box. Select the `System.ini`, `Win.ini`, and

`Static.vxd` options and reboot the computer. If the computer starts as it should, proceed to step 3 below. Otherwise, skip to step 4.

1. Reboot in Safe mode and return to the System Configuration Utility dialog box. Select the `Win.ini` page tab and double-click the Windows folder. The contents of the folder will appear on-screen. Deselect the Load= and Run= options, then reboot your PC. If the computer restarts without an error message (it should), open the Start menu and click the Run option.

If you use Win98, type `sysedit` in the Open field and click the OK button. In the resulting window, select the `Win.ini` file. If you use WinMe, type `edit c:\windows\win.ini` in the Open field and click the OK button. Either way, take note of the information listed after the Load= and Run= lines. Contact the computer manufacturer to determine which applications are associated with these lines and to learn how to obtain a fix for the problem.



Windows Protection errors almost always require outside assistance. You can make things easy for yourself and the support technician, however, by figuring out the cause of the problem before you call for help. Use the System Configuration Utility in Safe mode to focus in on the problem.

2. Reboot in Safe mode and return to the General tab of the System Configuration Utility dialog box. Select all the options but `Autoexec.bat` and reboot. Repeat the process, except select all the options but `Config.sys`. If you get the error message both times, you need to run the Registry Checker utility. You should find it in the Tools menu of the System Information utility (you can access the System Information utility by opening the Start menu, and selecting Programs, Accessories, and System Tools). Follow the on-screen instructions for running this utility.

If you get the error message only one of the two times you run the Selective Startup tool,

then you need to do something else. Reboot in Safe mode and return to the System Configuration Utility dialog box. Choose either the `Config.sys` or `Autoexec.bat` tab, whichever one *did not* produce the error message. Check only one of the lines on the selected tab and reboot the computer. Repeat these steps, choosing a different line each time, until you get the Windows Protection error message. The line that produced the error message is the problem. Contact the computer manufacturer or the manufacturer of the application associated with that line for assistance with receiving a fix.

3. Reboot in Safe mode and return to the System Configuration Utility dialog box. Select the Startup tab. You'll see a list of applications and utilities that load automatically each time you start Windows. Deselect all of the options except for the one at the top of the list. Reboot the computer. Repeat this process, selecting a different utility or application before each reboot. The application or utility that triggers the error message is the problem. Contact the developer of the application or utility for information about getting a fix.

4. The problem lies with the OS. Either reinstall Windows or contact Microsoft for a solution.

5. Reboot in Safe mode and return to the System Configuration Utility dialog box. Select the `System.ini` tab. Here, double-click the `386Enh` folder. The contents of the folder, some of which are marked with Windows flags, will appear on-screen. Deselect all of the options that are *not* marked with a Windows flag, and then reboot your PC. If the computer restarts without an error message, then a driver in the `386Enh` folder caused the error.

If it restarts with an error message, deselect all of the flagged options, but one and restart the PC. Repeat this process, selecting a different flagged option each time, until you select the one that triggers the error message. This is the driver that is causing the error message. If the offending driver is the display driver, then you should update your display driver; contact the monitor manufacturer to obtain this driver. In all other cases, contact Microsoft for assistance with receiving a fix.

6. The problem lies with the `HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\Winlogon` key in the Registry. Contact Microsoft for a solution.

Windows 98/Me Hardware

Deter Interference Among Devices For Improved Compatibility



It's a wonder that Windows 98 and Windows Me are able to work with all the variations of hardware devices in the marketplace today, with so many made by so many different manufacturers. In most cases, Win98 and WinMe will hum along, undeterred, accessing your installed graphics card, sound card, modem, network card, hard drive, removable drives, printer, and other peripherals. There may be times, however, when a single device will bring Win98 and WinMe to its knees, taking you down with it. At other times, the new hardware device you just purchased will not work at all after you install it.

Either situation usually results in an error message displaying on-screen, offering only a few words to describe the problem. You may have a few words of your own, but what you really want is a quick resolution to the error

message and to get on with your work. It is to those times that this article is dedicated.

Fortunately, Win98 and WinMe have several built-in troubleshooting features and tools that can help in resolving hardware failures. The fact that the OS (operating system) is telling you that something is wrong and giving you a probable cause to start with is actually a good first step. We will take that first step with you and guide you through some specific solutions to hardware error messages to demonstrate the troubleshooting features within, as well as other resources available for, Win98 and WinMe.

Try This First. Write down the actual error message so you have a record of it. Then shut down and restart your PC. From the Start menu, select Shut Down, confirm your choice, and click OK. Wait a few seconds before turning on the

PC again. Sometimes, when faced with an error, a fresh restart can do wonders for Windows.

If the error message refers to a specific device, try removing the device and reinstalling it. Occasionally, a device driver (a software program configured to enable the device to work with the OS) may become damaged. Removing a device and doing a "clean" reinstall often results in restoring the device driver.

First, shut down and power off your PC. If the questionable device is external, unplug it from the electrical outlet and disconnect it from the PC. If the troublesome device is internal, unplug all power cords from the electrical outlet, remove the power cord from the PC case, and open your case. Before touching any internal component, make sure you touch the metal PC case to ground yourself and disperse any static discharge your body may have built up. If you don't, a static discharge to a component could render it useless. Then, carefully remove the device. Close the PC case, reattach the power cord, and plug it back into the outlet.

Turn your PC on and click the Start button, select Settings, open the Control Panel, double-click the System icon, and choose the Device Manager tab. Confirm that the device is not listed in the category it should appear in. If it is still listed, select it and click Remove. Close all the windows and shut down Win98 or WinMe. Unplug and remove the power cord from the PC case, open the case, touch a metal area on the outside of the case to ground yourself, and put the device back into the slot on the motherboard. Close the PC case again, reattach and plug in the power cord, and start up your PC.

During the startup process, Win98 or WinMe will sense the new device, launch the New Hardware Wizard, and reinstall the drivers. The wizard may ask for the location of the installation files which, if Win98 or WinMe is preinstalled on your PC, are on your hard drive at C:\WINDOWS\OPTIONS. Otherwise, you'll need to insert your Win98 or WinMe installation CD-ROM into your disc drive. Use the installation CD-ROM that came with the OS installed on your PC.

WinMe users should always use the device drivers available on the WinMe installation CD-ROM. The drivers that came with your device may not be compatible with WinMe, unless stated so, because WinMe is a relatively new OS.

In this article, we will present a number of probable hardware device error messages, offer a possible reason as to why the error message occurred, and then provide a suggestion for getting your system up and running again.

■ **Driver & Device Conflicts.** It is a good preemptive measure to stop PC hardware error messages by keeping your device drivers up-to-date. Problems with errant hardware devices generally lie with the drivers. Refer to the "Device Manager" sidebar for details about using this Windows tool to help you keep device drivers current and manage a preemptive strike against error messages.

✱ **Error Message:** "USB hub power exceeded. The hub does not have enough power available to operate XX. Would you like assistance in solving this problem? If you click No, the device may not function properly."

Translation: You have too many devices needing power through the USB (Universal Serial Bus) port. The XX variable indicates the name of the affected device. While it's true that the USB port can daisy chain up to 127 devices and provide power to devices that don't have an external power supply, there is a limit to the power part of this attribute. The error message indicates that you reached the power-providing limit of the USB port.

Solution: Add an internal USB expansion card or an external self-powered USB hub. Another solution is to add only self-powered USB devices to the daisy chain.

✱ **Error Message:** "Windows Protection Error" or "While initializing XX, Windows Protection Error"

Translation: You may see this message if you have a HP LaserJet Series 4000 or 8000 printer or one of the Epson Stylus Color inkjet printers sharing an Omega Zip drive through the parallel printer port. The XX variable indicates the name of the affected device. A Windows Protection error message may occur when Windows attempts to load or unload a VxD (virtual device driver) that is in conflict with another device using the same resources.

Solution: You need to disable the bi-directional support in your PC's CMOS (complementary metal-oxide semiconductor) settings and in the properties of the printer. Check your PC manual to find out how to access the CMOS and change the setting for the parallel port on your PC. To access your printer's properties, click the

Start button, select Settings, and click Printers. Right-click your printer and click Properties at the bottom of the pop-up menu. Choose the Details tab, click Spool Settings, select the option to the left of Disable Bi-directional Support For This Printer, and click OK twice.

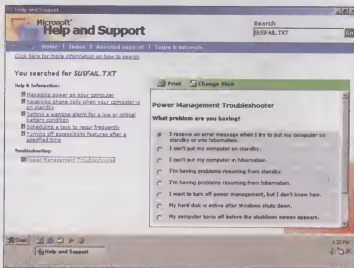
Please note that while the above will solve the specific noted problem, Windows Protection errors can occur at any time with any device conflicting with other devices. For a more universal procedure for resolving this type of error message, refer to the Microsoft Knowledge Base (<http://search.support.microsoft.com/kb>). In the My Search Is About field at the top, choose Windows 98 Second Edition or Windows Millennium Edition from the drop-down menu. In the I Want To Search By area, click the Specific Article ID Number option. Then, type Q149962 in the My Question Is field, and click Go. On the resulting page, click the Q149962 link, and read through the options listed for dealing with this common error message.

resources variation of this error will pop up. If the user is using an application that requires a modem (such as a fax program or browser), then the port error message will display. There are also drivers that may conflict with the hibernation or standby mode of a PC.

Solution: If you're on a network, close all files and applications before going into hibernation or standby. If you're using an application connected to a modem, close the application and go into hibernation or standby. Applications and files located on your notebook that are not using a network or modem connection may remain open before you going into hibernation or standby. For more detailed solutions, refer to the WinMe Help And Support window by selecting Help from the Start menu. Type `susfail.txt` in the Search field of the Help And Support window. The Power Management Troubleshooter will take you step-by-step through the process of resolving hibernation or standby conflicts with any device drivers.

Win98 users can find answers

concerning these conflict issues by accessing the Microsoft Knowledge Base. In the My Search Is About field, choose Windows 98 Second Edition from the drop-down menu. In the I Want To Search By area, click the Keyword Search option. Then, in the My Question Is field, type `susfail.txt` and click Go. On the resulting page, click the Q232728 Computer May Be Unable To Start Standby Mode link, and read through the options listed for dealing with this common error message. The page will offer solutions, as well as directions for downloading and using the Power Management Troubleshooter tool (`Pmtshoot.exe`) from the Microsoft Download Center. `Susfail.txt` is a log file



Windows Me users can find more information concerning standby conflict issues by opening the Help And Support window and accessing its Power Management Troubleshooter.

✱ **Error Message:** "Your computer can't go on standby because a device or program won't allow it. Close all open programs, and then try again." (Or you may see a variation of this message, along with a network resource error, audio device error, port error, PCI bus error, or generic device error.)

Translation: Notebook users may be the most susceptible to a variation of these error messages when they try to put their notebooks into hibernation or standby to conserve battery power. If the user happens to be sharing a file or using a program on a network, then the network

that is created during a standby or hibernation failure that may determine which application, driver, or hardware device caused the failure.

■ **Output & Playback.** It is truly amazing what you can create using a PC: documents, pictures, music, and even movies. But can your PC provide adequate output and playback for these items? The PC's sound card, video card (also called a graphics card or display adapter), and printer are essential output devices that can cause their own variety of error messages, preventing you from sharing your creativity with

the outside world. In many instances, getting updated device drivers, reinstalling the device, or just checking the connections can get the errant device running again.

* Error Message: "MIDI output error detected"

Translation: Your sound card is the device that has the driver to support MIDI (Musical Instrument Digital Interface); an interface protocol for transforming music into data and vice versa) playback from within a Windows multimedia player. This message represents a failure of the sound card's MIDI device driver.

Solution: Click the Start button, Settings, and Control Panel. Double-click System, and choose the Device Manager tab. Select the View Devices By Type option, and then click the plus sign (+) to the left of Sound, Video And Game Controllers to list the sound card device drivers. Highlight and remove all the audio or sound card devices, and then shut down Windows. Restarting Windows will detect the sound card and reinstall the drivers.

In addition, we suggest that you periodically check your sound card manufacturer's Web site, such as Creative's Sound Blaster series (<http://www.creativeblabs.com>) and Voyetra Turtle Beach (<http://www.voyetra-turtle-beach.com>), for the most recent device drivers for your OS. Many of the updated drivers will self-install when you click the downloaded file after you finish downloading it from the site.

* Error Message: "Invalid file format" or "Cannot play back the file. The format is not supported." or "Cannot play back video stream: no suitable compressor could be found." or "No combination of filters could be found to render the stream." or "The source filter for this file could not be loaded." or "Unable to download an appropriate decompressor."

Translation: You might receive any of these error messages when you try to play a movie file (.AVI, .MOV, and others), audio file (.MP3, .WAV, and others), or attempt to download streaming audio or video that doesn't play. An error message might be the result of a damaged

multimedia player (Windows Media Player, RealPlayer, and QuickTime) or a missing or damaged codec (compressor/decompressor) driver needed to convert the digital data for your monitor (via your video card) and/or speakers (via your sound card).

Solution: Get the most recent version of

your chosen multimedia player online (<http://www.microsoft.com/windows/windowsmedia>, <http://www.real.com>, or <http://www.apple.com/quicktime>) and follow the installation directions to either upgrade or reinstall the player on your PC.

In addition, you can try using the codec driver available in Win98 and WinMe for Windows Media Player. From the Start menu, select Settings, click Control Panel, double-click Add/Remove Programs, and choose the

Windows Setup tab. Select the Multimedia checkbox, click Details, scroll the list, select the Video Compression checkbox, and click OK twice to close both dialog boxes. Windows will prompt you for the Win98 or WinMe installation files so it can install the codec driver. Once you reboot, the driver is ready to use.

Keep in mind that this codec driver is designed for the Windows Media Player. If you choose to use another multimedia player, such as Nullsoft's Winamp (<http://www.winamp.com>) or RealPlayer (<http://www.real.com>), it's best to completely download the multimedia player from the chosen site and follow its installation directions because each player uses its own unique codec driver.

* Error Message: "LPT Printer Error: Error printing to port lptX." or "Severe: PnP Hardware ID not found in Canon.ini. Installation aborted."

Translation: This printer error may pop up when you try sending something to a Canon BJC-5000 inkjet printer if the printer's device drivers did not install properly or are corrupt.

Solution: Follow the printer's manual to reinstall the printer drivers. Better yet, go to Canon's site (<http://www.usa.canon.com/support/files>) and download the updated drivers. Follow the instructions on the site. Restart your PC and try to print.

* Error Message: Your printer is not printing the way it used to or is producing poor quality copy.

Translation: Your printer device drivers may be corrupt or out of date. This may happen if you recently upgraded your OS to Win98 or WinMe from a previous version of Windows.

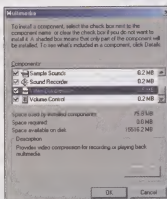
Solution: Delete the printer listing by clicking the Start button, Settings, Printers, and right-clicking your printer's icon. Select Delete from the pop-up menu to remove the printer's listing. Answer "Yes" if asked whether you are sure you want to do this and if it's OK to delete files no longer needed by the printer.

Next, click Add Printer to launch the Add Printer Wizard. First, click Next, and then indicate whether your printer is a Local Printer or Network Printer. Click Next. Select the printer manufacturer and actual printer to highlight the listing, and then click Next. Select the available port to which your printer is attached and click Next. Use the default printer name or type one of your own, click the Yes option if you want the printer to be the default printer for your PC, and click Next. In the final wizard window, print a test page and click Finish. The wizard will add the printer to the Printer folder.

If asked for the location of the Windows installation files or CD-ROM, make sure you use the files or CD-ROM that represent the current version of your Win98 or WinMe OS. Some of the Win98 device drivers are not compatible with WinMe.

In addition, you can check with your printer manufacturer's site for printer driver updates matching your Windows OS. Some of the most popular printer manufacturers include Canon (<http://www.usa.canon.com/support/files>), Epson (<http://support.epson.com>), Hewlett-Packard (<http://www.hp.com/cposupport/software.html>), Lexmark (<http://www.lexmark.com/drivers>), and Xerox (<http://www.xerox.com>).

* Faults & Fatal Exceptions. At one time or another as Windows users, we have experienced a GPF (general protection fault) or a fatal exception error message. GPF is an error condition that occurs when an application or device driver tries to access memory outside of its authorized memory space or when an invalid instruction is issued. A fatal exception is an error that causes the system or an application to crash (stop working), with no hope of recovery. With both types of errors, you have to restart your PC before you can try to resolve the problem. These errors are usually resolved by reallocating memory,



There is a codec driver available in Windows 98 and Windows Me that works with Windows Media Player.

installing a patch for an application, upgrading a device driver, or simply reinstalling the errant application or device.

*** Error Message:** "This program has performed an illegal operation and will be shut down." or "Spool32 caused an invalid page fault in module ISM.DLL" or "Spool32 caused a GPF in ISM.DLL."

Translation: This message may occur when you try to print to a Hewlett-Packard Deskjet printer and a portion of the printer device driver code that is not needed for printing is accessed anyway.

Solution: Look for and rename the Image Server folder. Right-click the Start button and select Explore to open Windows Explorer. Open the C:\Program Files folder (click the plus sign to the left of the folder) and look for the Image Server folder. Right-click the folder and click Rename on the pop-up menu. Rename the folder by typing Image, press the ENTER key, and then close Windows Explorer. Restart your PC and try to print again.

*** Error Message:** "Cmdninst has caused a general protection fault in module User.exe."

Translation: This is a WinMe error message caused by the vendor-supplied device drivers for the Yamaha DS-XG PCI or ESS-1869 sound cards. These sound cards were typically installed in Windows PCs by manufacturers before WinMe was introduced. Trying to use these cards with their original device drivers will conflict with the WinMe OS.

Solution: Visit the Yamaha site (<http://www.yamaha.com>) or the ESS Technology site (<http://www.esstech.com>) and download the WinMe updated device driver for the respective sound card. You might also want to check out the Web site of your PC manufacturer for updated WinMe drivers for your particular PC model.

*** Error Message:** "Fatal Exception Error: Cannot upgrade Windows with Aureal Vortex 1 driver installed."

Translation: This error message stops you from even installing WinMe on a PC that has the Aureal Vortex 1 type of audio driver installed. This is another typical PC manufacturer's packaged installation of a sound card, this time with the Aureal A3D chipset. Diamond Multimedia, Hi-Val, I/O Magic, and Voyetra Turtle Beach are some manufacturers that have used this chipset.

Solution: In Win9x (OS you're using before the upgrade to WinMe), you can use the Device

Manager (click the Start button, select Settings, open the Control Panel, double-click System, and choose the Device Manager tab) to determine which sound card is installed on your system. Click the plus sign to the left of the Sound, Video And Game Controllers category, and write down your sound card listings. You can also check the PC's manual or open the PC case (using the precautions about static electricity that we mentioned earlier) to see if you can identify a manufacturer's name on the sound card (it's the one with the speakers connected to it).

Then go to the appropriate sound card manufacturer's site, download the WinMe drivers for the Aureal A3D chipset, and install them. You might also want to consider installing a new sound card that isn't based on the Aureal A3D chipset. Once you restart your PC after installing updated drivers, you should be able to run the WinMe setup program to install the OS.

*** Error Message:** "Explorer caused an Invalid page fault in module EXPLORER.EXE at 015f600401f31."

Translation: You may get this error message after you install Diamond Multimedia's Monster Fusion video card device drivers and try to restart your PC. The device driver replaces the Comctl32.dll file with a version that is not compatible with Internet Explorer 5.

Solution: Go to Diamond Multimedia's Web site (<http://www.diamondmm.com>) and download updated drivers for its Monster Fusion series of cards. Carefully follow the installation directions and then restart your PC.

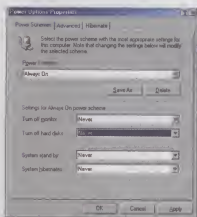
An alternative solution is to extract a new copy of the Comctl32.dll file and place it at C:\WINDOWS\System. Next, restart your PC, press the F8 key on your keyboard during start-up to view the Windows Startup Menu, and choose Safe Mode Command Only. Rename the Comctl32.dll file to Comctl32old by typing `ren c:\windows\system\comctl32.dll comctl32old` at the command prompt (C>) and pressing the ENTER key. Extract the Comctl32.dll file from the Setupw95.cab file located in the Windows Update Setup Files folder that was created when you downloaded the Internet Explorer 5 update.

Windows stores its installation files in compressed cabinet (.CAB) files. At the command prompt, type `extract C:\window-1\setupw95.cab comctl32.dll /l c:\windows\system` and press ENTER. The /l in the command will place the extracted Comctl32.dll file into the appropriate Windows directory. Restart your PC and your Monster Fusion video drivers should work.

*** Error Message:** "A Fatal Exception 0D has occurred. Press any key to continue."

Translation: This message might display as a blue-screen error message after you have installed the ATI Technologies All-in-Wonder Pro video adapters (version 5.0 or later) provided by ATI. You may also be trying to use an application that relies on 16-bit video device drivers that are no longer supported in the 32-bit video drivers of Win98 and WinMe. The application may have also installed 16-bit drivers that are conflicting with the 32-bit Win98 and WinMe drivers.

Solution: Visit the ATI Technologies Web site (<http://www.atitech.com>) and get the updated device drivers for the All-in-Wonder card. Plus, visit the site of the application that initiated the error message and see if it has an update or patch for its application that can correct this conflict.



By accessing the Power Options Properties dialog box, you can either temporarily or permanently disable the APM (Advanced Power Management) feature.

Meanwhile you can work around this error message by starting your PC in Safe mode. Press the F8 or F5 key (or whatever key is appropriate for your system) after you turn on the PC and select Safe Mode from the Windows Startup Menu. In Safe mode, click the Start button, select Run, type `msconfig.exe`, and click OK. In the System Configuration Utility dialog box, choose the System.ini tab, double-click the [boot] branch to expand it, and then right-click Display.Drv=Pnpdrv.drv. Click Clear, and then click OK. Click Yes to restart your PC. Then, in Safe mode, repeat the steps of selecting Run, typing `msconfig.exe`, clicking OK, and choosing the System.ini tab in the System Configuration Utility dialog box. The steps you'll change this time around are clicking Select, clicking OK, and clicking No when asked to restart your PC.

Next, open the Start menu, select Settings, click Control Panel, double-click the Display

icon, choose the Setting tab, and then click Advanced. Choose the Adapter tab and click Change. In the resulting Update Device Driver Wizard, click Next, and select the option next to Display A List Of All The Drivers In A Specific Location. So You Can Select The Driver You Want. Click Next, and then select the ATI All-In-Wonder Pro option dated 5/11/98. Click Next as many times as necessary until you click Finish. Be sure to click Apply and Close before restarting your PC.

*** Error Message: "A Fatal Exception 0E has occurred at 0028:C00082CD in VxD(01)+000072CD."**

Translation: If you have a Matrox video adapter and you try to shut down or restart your Win98 or WinMe PC, this blue-screen error message may cause your PC to "hang" or stop responding. This indicates that the video adapter device driver is incompatible with your version of Windows (or is corrupt).

Solution: Visit the Matrox site (<http://www.matrox.com>) and download the most appropriate updated drivers for your version of Windows. Note the download and installation instructions according to what's available on the site.

■ Moving On. To review more of these error messages, you can access the Web-only portion of this article at <http://www.smartcomputing.com/learning/errors/98Mehardware>. Also refer to the specific articles in the "Hardware" section of this issue to find solutions to other errors that Win98 and WinMe can produce in relation to hardware problems.

In addition, the Internet is a great resource for resolving hardware error messages by using manufacturers' support Web pages or Microsoft's vast Knowledge Base (<http://search.support.microsoft.com>). If you are looking for a particular Web site from which to download device driver updates or application patches, use the Knowledge Base to pinpoint the manufacturer or vendor you need. In the My Search Is About field, choose All Microsoft Products from the drop-down menu. Then, below I Want To

Search By, select the Specific Article ID Number option. To access lists of hardware and software manufacturers, go to the My Question Is field and type Q65416 (for the A-K list), Q60781 (for the L-P list), or Q60782 (for the Q-Z list).

There are also sites that will ease your search for updated drivers. Driverzone.com (<http://www.driverzone.com>) and Totallydrivers.com

(<http://www.totallydrivers.com>) have compiled links and helpful hints for just about any device. And don't forget about the search tools at SmartComputing.com (<http://www.smartcomputing.com>). Use our Find Answers feature to search through our archived articles. **[E]**

by Steven Sweet

Device Manager

The Windows 98 and Windows Me Device Manager is a versatile applet that you can use to prevent and resolve device problems. It offers such capabilities as indicating whether a device is working properly, updating a device driver, changing device setup values, turning devices on or off, defining which resources a device uses, and indicating whether one device is conflicting with another.

To access the Device Manager, click the Start button, select Settings, click Control Panel, and double-click the System icon. In the System Properties dialog box, choose the Device Manager tab to list the installed device categories. To reveal all the devices in a specific category, click the plus sign (+) to the left of the device category in question.

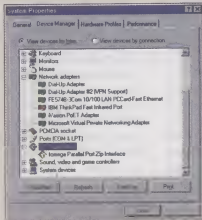
If there is an "X" or an exclamation mark (!) to the left of a listed device, this indicates that there are problems with the device. Select the device in the list to highlight it, and then click Properties to open another dialog box that displays whether the device is working properly in the Device status area of the General tab. For example, the "X" might indicate that you just need to enable the device by deselecting the Disable In This Hardware Profile checkbox on the

General tab of the Properties window. The exclamation mark, on the other hand, might mean that the device isn't physically connected to the PC. Or, perhaps the driver just needs to be updated. These situations will display in the Device status area on the General tab of the Properties dialog box.

If a device is not working, select it in the Device Manager, and click the Remove button. When you click OK and restart your PC, this will force your system to reinstall the device you just removed, along with its driver. You can update a driver by selecting a listed device, clicking Properties, and choosing the Driver tab in the dialog box that appears on-screen. Click the Update Driver button to launch a wizard that can either search for and install a better driver or let you find one by manually browsing to it (which is the option you'll need to choose if you plan to download an updated driver from a manufacturer's Web site).

In addition, devices should not be trying to share resources. This can cause device failure or, at best, intermittent functioning. To resolve device conflicts or change a device's setup values, go to the Device Manager tab, highlight a listed device, click Properties, and choose the Resources tab. Here, depending on which device you selected, you'll see the IRQ (interrupt request lines) setting, I/O (input/output) range, and the DMA (direct memory access) settings for the device. The Conflicting Device List will either indicate "no conflicts" or specify the conflicts in question.

In most cases, if the Use Automatic Settings checkbox is selected, Windows will assign device settings appropriately. However, if a device is listed as conflicting with another, you may need to deselect the Use Automatic Settings checkbox, and choose Basic Configuration from the drop-down menu to access other available settings. Click the Change Setting button and select a new setting for the device (if possible). Next, look at the Conflicting Device List for possible conflicts with other devices. Finally, click OK to close the dialog boxes and restart your system to install the new settings. **[]**



Device Manager, a useful tool bundled with Windows 98 and Windows Me, can help identify hardware-related problems on your PC.

Windows 98/Me Software

Solutions For Snags That Can Sidetrack You



If you use Windows, you're probably familiar with these harbingers of doom: general protection fault, fatal exception error, invalid page fault, runtime error, insufficient memory, illegal shut down, and the infamous "blue screen of death." These phrases are as unpredictable as they are cryptic, striking your computer when you least expect them. Often, there's little you can do about them except reboot your PC.

Fortunately, some error messages are clearer and can actually help identify problems you can resolve. Many errors occur when you start up or shut down your computer, access hardware, or connect to the Internet. We'll look at software-related error messages you may face while writing a document, editing a graphic, copying or renaming a file, or other tasks. We'll also provide some solutions to return to your work when Windows interrupts it.

■ Exceptionally Fatal. The largest category of errors you'll probably encounter is fatal exception errors, such as stack, general protection, and page faults. Fatal exception errors usually occur when a program tries to perform an illegal operation, such as asking your PC's processor to execute a dubious command. The processor takes "exception" to the request and alerts you that the software is violating the rules. Windows displays this as a fatal exception error and asks what you want to do about it.

These errors generally are unrecoverable, meaning you have to shut the application down or restart Windows. You'll usually lose unsaved data. As Microsoft puts it, fatal exception errors usually are due to "nonstandard code in a program," and likely occur because a developer incorporated something Microsoft didn't anticipate.

Fatal exception error messages come in different formats. The basic format is "A fatal exception XX has occurred at XX." The first XX represents a processor exception code, which is a two-digit number telling you the type of exception occurring. The exception code may have an "h" after it, which stands for hexadecimal. The second XX is a numerical pointer, or the location where the exception occurred. (See the sidebar "Code To Unlock The Mysteries Of Processor Exceptions" for a list of exception codes.)

*** Error Message:** "A fatal exception 00 has occurred at XX"

Translation: A divide error has occurred. This can happen if the processor tries to divide a number by zero in a register, which is the location where calculations are performed. Since this is mathematically impossible, an error results.

Solution: Close the message and try continuing in the application. If you can't, close the application and restart it. If this doesn't work, reboot the computer.

*** Error Message:** "A fatal exception 0C has occurred at XX"

Translation: A stack fault has occurred. Stacks are memory areas reserved for programs to process hardware events. If a stack instruction tries to use memory outside the stack, it generates an error.

Solution: Microsoft notes that stack faults are always fatal to the current program running in Windows. Try to close the application and then reboot your PC before returning to the application.

*** Error Message:** "A fatal exception 0E has occurred at XX"

Translation: A page fault has occurred. A page is a segment of a system's virtual memory or RAM. When a processor tries to access a page not present or the data retrieved isn't valid, a page fault results.

Solution: Close the message and try continuing your work in the application. If you're unable, close the software and restart it. Reboot the computer if necessary.

*** Error Message:** "A fatal exception 13 has occurred at XX" or "General Protection Fault"

Translation: Exception 13 is the code for a GPF (general protection fault). GPF is the term for any exception fault not covered by another code. Microsoft's online knowledge-base states, "All protection violations that do

not cause another exception cause a general protection exception."

Solution: Close the message and return to the application. If you can't, close and restart the program or reboot the PC.

GPFs and other exception errors generally occur just once. However, if an error persists, try to identify when and where it occurs. If it repeats in the same spot, the location is probably the source of the error. If the problem is an application, there may be a programming bug or corrupt files. Try reinstalling the program. If this doesn't work, check the vendor's Web site for support resources or contact technical support.

If the GPF seems unrelated to an application, a Windows system file or device driver may be damaged or deleted. To check this, boot in Safe Mode by restarting your computer and pressing CTRL while the Startup Menu appears. Select Safe Mode, which lets Windows load only essential components. If the GPF doesn't recur, the trouble may reside in a driver or component Windows doesn't use in Safe Mode. If it does occur, a core Windows component may be the problem. Unfortunately, you may need to reinstall Windows to resolve the problem.

*** Error Message:** "System busy" appears on a blue screen.

Translation: Often, accompanying text will inform you a GPF has occurred, which almost always indicates a program—and usually the whole system—has frozen. Waiting for the system to become less "busy" generally won't help.

Solution: Reboot your PC. If the error reappears, address it like any other GPF.

■ **Fixing Shattered Windows.** Certain fatal exception errors have specific causes. Many happen only when certain Windows modules or components go bad. Below are examples.

*** Error Message:** "This program has performed an illegal operation and will be shut down. If the problem persists, contact the program vendor."

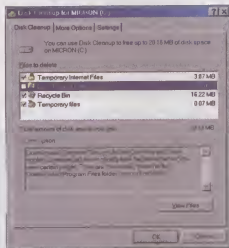
Translation: The "illegal operation" portion of this message is a catchall covering a variety of glitches.

Solution: Click the error's Details button for more information. You may see an explanation, such as "SOL caused a general protection fault in module Krnl386.exe at 0002:00003077." This means Microsoft Solitaire, or SOL, is the problem's proximate cause. If a particular program keeps prompting an error under Details, try closing and

restarting the program, reinstalling the software, or contacting the vendor.

*** Error Message:** "XX caused an invalid page fault in module HHCTRL.OCX at XX."

Translation: XX refers to a Windows tool, such as WordPad. HHCTRL.OCX is a file in the Windows Help module. You may see this message if you request help for one of these tools. When you close the error message, you may receive a second alert, such as: "Hard Disk is Full. You have run out of disk space on drive C. To free space on this drive by deleting old or unnecessary files, click Disk Cleanup."



If Windows doesn't have enough space for its swap file, you can use the Disk Cleanup utility to delete extraneous files to free up some space.

Windows often triggers the error if it writes part of the system's memory to disk during operations. Specifically, Windows writes the memory to a swap file, because the memory isn't big enough to hold everything the system requires at once.

Solution: Delete files you no longer need with Disk Cleanup. Click Start, Programs, Accessories, and System Accessories to access it. Also empty the Recycle Bin or delete files individually with Windows Explorer. Other options include uninstalling programs with the Add/Remove Programs tool in Control Panel or backing up files with MS Backup. The goal is to free space for Windows to write its swap file without hindrance.

*** Error Message:** "Explorer caused an invalid page fault in module KERNEL32.dll at XX"

Translation: This error may happen when you attempt to open Control Panel and a necessary file is damaged. The text may refer to Kernel32.dll or a file with a Control Panel (.CPL) extension.

Solution: To replace a .CPL file, you'll probably have to reinstall Windows. If you're an experienced user, you can identify the faulty .CPL file using File Finder to locate the .CPL files in your system and double-clicking each one to see if it works. To replace the file, you'll need to locate it on your Windows CD and retrieve it with the Extract function.

■ **Application Errors.** Like Windows components and utilities, applications can sometimes generate fatal exception errors. Below are examples of these.

*** Error Message:** "A fatal exception 0E has occurred at 0028:XX in VXD SYMEVENT(0x) + XX"

Translation: This GPF may occur if you have an older version of a Symantec utility installed, such as Norton AntiVirus. Similar errors may stem from virus protection programs, graphics software, and scanner utilities. If the message has a Details button, click it to identify the errant software.

Solution: The easiest and best solution may be reinstalling the program or upgrading to the latest version. If this doesn't help or an updated version isn't available, you may have to edit the Registry, which contains system information about your hardware and software. Don't edit the Registry unless you're confident in your skills and you perform a backup of files in the Registry first. To run the Registry Editor, click Start, Run, and type regedit.exe and then press OK or ENTER. If the following line appears in the Registry, delete it:

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\VxD\SymEvt

Run the System Editor by typing sysedit in the Run field. Pick System.ini from windows that appear. Click Find from the Search menu and locate the line containing "symevnt.386." Place a semicolon (;) at the beginning of the line so Windows won't process it. Then save the change, exit, and restart your computer.

*** Error Message:** "EXPLORER caused a general protection fault in module qtww32.cpl at XX"

Translation: This error can happen when you try to open the Control Panel and an Apple QuickTime For Windows file is missing or is damaged.

Solution: You need to remove QuickTime For Windows to boot the system correctly. Then, reinstall QuickTime For Windows if needed. To do this, reboot your PC and hold down the CTRL key to access the Startup Menu. Select Safe Mode Command Prompt Only. At the prompt, type

```
cd \windows\system
ren qtw16.cpl qtw16.old
ren qtw32.cpl qtw32.old
```

Reboot your computer. Then open the Control Panel and double-click the Add/Remove Programs applet. On the Install/Uninstall tab, click QuickTime For Windows to remove it. You can reinstall it from the Windows installation CD or download it from the Internet.

*** Error Message:** "A fatal exception 0E has occurred at 0028:XX in VXD IFSMGR(0x) + XX. The current application will be terminated."

Translation: This GPF happens when you try to open or close the Control Panel. The error can occur if an HP Scanjet file named Vhpscand.vxd is in the WINDOWS\SYSTEM folder instead of in the WINDOWS\SYSTEM\IOSUBSYS.

Solution: Open Windows Explorer. Click Tools from the menu bar, Find, and then Files Or Folders. Type vhpscand.vxd in the Named field to find the file. If it's in the WINDOWS\SYSTEM folder, right-click the file and click Cut. Then, right-click the WINDOWS\SYSTEM\IOSUBSYS folder, click Paste, and restart your computer.

System Maintenance Errors. Some errors happen during or after routine system maintenance tasks, such as installing or uninstalling applications or renaming or deleting files. Below are examples.

*** Error Message:** "Error starting program. The XX file cannot start. Check the file to determine the problem."

Translation: This error message can appear on your screen if a program you have installed has replaced a Windows file with a file of its own. The XX in this message represents the new file that has taken the place of the file on your system. Possible substitute files can include:

Comctl32.dll, Comdlg32.dll, Shell32.dll, Iz32.dll, Version.dll, and the Winmm.dll file.

Solution: You'll need to replace the new file with the old file. In the list below, use the old file that is on the left to replace the new file that is on the right:

```
Commctrl.dll for Comctl32.dll
Commdlg.dll for Comdlg32.dll
Shell.dll for Shell32.dll
Izexpand.dll for Iz32.dll
Ver.dll for Version.dll
Mmsystem.dll for Winmm.dll
```

The easiest way to restore an old file is by copying it from your WINDOWS\SYSDIR\BCKUP folder. For example, find the old file in the WINDOWS\SYSDIR\BCKUP folder, such as Shell.dll, copy it, and then paste it to WINDOWS\SYSTEM. Now delete the bogus file, such as Shell32.dll.

*** Error Message:** "The following system files have been replaced with older

versions by a program you recently ran. These files are currently in use and cannot be automatically repaired. Windows may not run correctly until you exit and restart Windows so that the files can be automatically repaired. C:\WINDOWS\SYSTEM\XX"

Translation: When you install software, the application may overwrite some system files with older versions of the same files. In the error message you see above, C:\WINDOWS\SYSTEM\XX represents an overwritten file. The error should note any such files.

Solution: Rename an overwritten file that's listed to something such as C:\WINDOWS\SYSTEM\XX.old. Repeat for each file in the message. Go to the WINDOWS\SYSDIR\BCKUP folder, find the files that correspond with the ones you just renamed, and copy them to WINDOWS\SYSTEM. If you can't do this because your system is froze, reboot the PC. Press CTRL to access the Startup Menu and choose Command Prompt Only. At the prompt, type

```
cd \windows\system
ren xx.xx.old
cd \windows\sysback
```

copy xx \windows\system\xx

inserting appropriate file names in place of xx.

*** Error Message:** "Cannot find the file XX or one of its components."

Translation: Windows can't locate software needed to run an application or load a file. This may occur if you move, delete, or uninstall a program, or clear a drive of unnecessary files and inadvertently delete a needed file.

Solution: The file may still be in the Recycle Bin. If it is, restore it. If not, reinstall the software.

*** Error Message:** "Error Deleting File Cannot delete XX. Access is denied. Make sure the disk is not full or write-protected and that the file is not currently in use."

Translation: This message crops up when you attempt to delete a file (represented by XX) that another program is using, such as if you have a Word document open and you try to delete Word files with Windows Explorer. The error may occur when you try to delete a temporary file in Windows Explorer while Windows is using it.

Solution: Identify the software that is using the file you want to delete and close the file or application. If Windows is using a system file, you may have to reboot your machine to release the file from Windows' grip.



If a DOS program won't run under Windows, you may need to adjust the program's memory settings to enable it to do so, as shown in the image above.

*** Error Message:** "Cannot delete: Cannot find the specified file. Make sure you specify the correct path and filename."

Translation: This message and variations of it can appear if you click a file or folder in Windows Explorer to open, delete, or drag it to the Recycle Bin. The message signifies the file or folder name may contain invalid characters, which may not appear on your screen even though they're embedded in the filename.

Solution: To delete a file or folder, create a temporary folder and copy the file or folder's contents to it. Delete the old folder's contents using the DEL command and the *.* wildcard. If this works, restore all the files, except the one with the improper name, to the old folder.

To rename a file or folder with an invalid character, use a single-character wildcard question mark (?) to replace the character, which substitutes for the invalid character. For example, to rename a file named *eadm*.txt, typing ren ?eadm.txt readm.txt will alter the name.

*** Error Message:** "An error occurred while trying to remove XX. Uninstallation has been canceled."

Translation: This error may appear if you click a program on the Install/Uninstall tab in Add/Remove Programs that's already deleted. Windows may abort after trying to uninstall the item because it's no longer present.

Solution: It may be annoying, but software listed in the Install/Uninstall box that's actually deleted is harmless. Removing it requires editing the Registry, so you're best to leave it alone. If you must remove it, back up the Registry first. To remove an application, type regedit in the Run field and locate the following line:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall

Delete the line located directly under it for the software you don't want listed. You can also use a TweakUI utility available from Microsoft to edit the Install/Uninstall lineup.

*** Error Message:** "Can't open uninstall log file XX."

Translation: This error message occurs when you use Add/Remove Programs to uninstall an application already deleted. The error may also appear if you've deleted the log file (represented by XX) that contains the software's uninstall information.

Solution: The uninstallation routine can't proceed without the log file, so you need to delete the application manually. If deletion proves impossible, try to reinstall and then uninstall the software using Add/Remove Programs.

*** Error Message:** "A filename cannot contain any of the following characters: \/:*?<>| or path\filename. This filename is not valid."

Translation: You may see this message if you try to name a file with an invalid character, such as those listed above. A similar error related to folders and shortcuts may also appear.

Solution: Try to rename the file with valid characters.

*** Error Message:** "Unable to create directory"

Translation: You may see this error message appear if you start your PC at an MS-DOS command prompt and try to name a folder using more than 67 characters. Windows adheres to the name limits of DOS if you begin at a prompt.

Solution: To work around this, don't start your computer at the command prompt and create the folder in Windows.

*** Error Message:** "Drive XX contains errors that must be corrected before the drive can be compressed. To correct them, run ScanDisk." or "Drive XX contains errors that must be corrected before the drive can be uncompressed. To correct them, run ScanDisk." or "Drive XX contains errors that must be corrected before the drive can be used to create a new compressed drive. To correct them, run ScanDisk."

Translation: The problem may be a folder named with more than 66 characters. Windows allows folder names this long, but MS-DOS doesn't. When ScanDisk runs on a drive (XX in this example) using the Automatically Fix Errors option, ScanDisk acts as if it's running in DOS.

location with a shorter path. Run ScanDisk or DriveSpace. Return the folder to its original location when done.

■ Is Your Memory Going? Memory-related messages often appear when you start or run applications, which can trigger a series of failures requiring you to restart your system. In general, too much software is running without enough RAM available.

*** Error Message:** "Out of memory." or "There is insufficient memory to run this application." or "Error starting program. There is not enough memory. Quit some programs and try again."

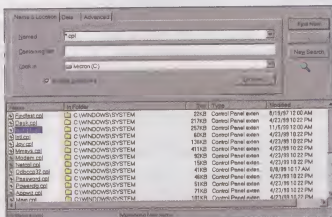
Translation: These messages can indicate several problems may have transpired, including there that are too many programs trying to run in memory or system settings aren't set to use memory efficiently.

Solution: If the message appears when several applications are open, close those unneeded to eliminate the error and restore the remaining programs to working order. If memory remains unavailable after shutting down the software, reboot the PC. If an application continues to cause problems, files may be corrupt. Try to uninstall and reinstall it. Back up data or Config files you want to reuse first.

Even if you close applications, there are still programs that are competing for RAM. Many programs and utilities run automatically when Windows starts. To get a look at what is occupying your RAM, click Start and Run. Type msconfig and then click OK. Click the Startup tab to see the programs that are launching automatically.

Resist disabling anything you don't recognize. However, you may see components you have uninstalled or don't use. Common culprits are Microsoft Office, RealPlayer, and antivirus and other utility software. Uncheck programs you're sure you don't need and reboot.

If this doesn't resolve the problem, reboot your machine in a minimal configuration with little or nothing in memory. Do this by running Msconfig again and clicking the General tab. Uncheck the boxes for Process Win.ini file and Load Startup Group Items, and exit. If this ends the error, you may be pushing your RAM limits. RAM is



You can use the Find Files tool to locate a Control Panel file (.CPL) that may be corrupt. You may need to reinstall Windows or extract the necessary file from the Windows Installation CD to correct the problem.

Solution: If you're unclear which folder is causing the trouble, run ScanDisk and deselect Automatically Fix Errors. If the message reappears, note the offending folder name. You can rename it, but if an application created the name, you probably should keep it. Try moving the folder to a temporary

inexpensive, so getting more memory is an easy solution.

The problem may also be that Windows is having trouble writing part of its memory to disk. As noted earlier, Windows writes part of the RAM to a swap file. If the swap file is too small, problems arise. To optimize the swap file size, open Control Panel and double-click System. On the Performance tab, click the Virtual Memory button. If the Let Me Specify My Own Virtual Memory Settings is checked, click Let Windows Manage My Virtual Memory Settings, click OK, and OK again. Also, empty the Recycle Bin; delete temporary, obsolete, or archived files; and remove unused software to create more room.

If the error occurs while you are running an MS-DOS program, you may not have enough conventional, expanded, or extended memory allocated. Windows tries to provide enough of each kind the DOS software uses. To check this, you can right-click a program's icon or shortcut and choose Properties from the menu that appears. On the Memory tab, scan the values. If the error details the type of memory lacking, increase the value. If not, consult the program's documentation to check how much of each memory type software needs and adjust the values.

If the documentation isn't available or doesn't specify the values, experiment to provide the program enough. If Auto or a low value is listed in one of the Total boxes, enter a moderate value, such as 8192. Run the program again. If the problem recurs, boost the

value. Repeat the process for each Total box until the software works or you max out the values. If all else fails, contact the vendor for a possible upgrade or patch.

Device Errors. Some messages appear to be related to hardware devices, but they are actually software glitches that are usually caused by a change to a system's settings. This can render a device connected to your system inoperable.

do this, open Control Panel and double-click Display. On the Settings tab, click the Advanced button. On the Adapter tab, click the Change button. Click Next, then check Display A List Of All The Drivers In A Specific Location, So You Can Select The Driver You Want, and click Next. Check Show All Hardware. In the Manufacturers list, select Standard Display Types. In the Models list, select Standard Display Adapter (VGA). Click Next, follow the instructions, and restart your PC.

DOS-Based Programs. Many older DOS applications demand exclusive use of your computer's resources and may run only in DOS mode or not at all.

***Error Message:** "Program does not run under Windows."

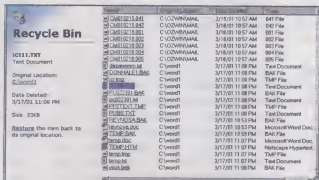
Translation: This message and its variations indicate Windows isn't configured to run the software in a DOS window.

Solution: To verify the software works, click Start, Shut Down, and Restart in MS-DOS Mode. Try to run the software when your system starts. You should be able to configure it to run within Windows. Return to Windows. If the program doesn't have a shortcut, you can create one by right-clicking its icon and selecting Create Shortcut. Right-click the shortcut and then choose Properties. On the Program tab, click the Advanced button. Check the MS-DOS mode box, click OK, and exit.

A DOS application may not launch if it detects Windows is running. If you encounter this problem, repeat the steps described above. After you click the Advanced button, check the Prevent MS-DOS-Based Programs From Detecting Windows box and exit.

Take Back Your Windows. Don't let Windows software errors intimidate you. The majority of these errors are caused by mysterious gremlins that will simply go away when you reboot your system. As for the rest of them, follow the steps we have provided and you'll soon be computing again. **LS**

by Robert Schmidt



If a program stops working after you delete some files, the files may still be in the Recycle Bin. You may be able to restore the files to correct a problem associated with the deleted files.

*** Error Message:** "XX caused a general protection fault in module DIBENG.DLL"

Translation: XX in this message represents the program generating the error, which may occur if an incompatible display driver is installed. A display driver is a file that tells the computer how to present text and graphics on the monitor screen.

Solution: Obtain the latest driver for your video adapter from the vendor or use Windows' standard VGA display driver. To

Code To Unlock The Mysteries Of Processor Exceptions

Below is a list of processor exception codes, which can be used to decipher exception error types that can occur on your system. The meanings of these errors can be considerably technical and involved, but Microsoft's online knowledgebase contains an article (Q150314) that details the definitions of the codes at <http://support.microsoft.com>.

- 00: Divide Fault
- 02: NMI (Non-Maskable-Interrupt Interrupt)
- 04: Overflow Trap
- 05: Bounds Check Fault
- 06: Invalid Opcode Fault
- 07: Coprocessor Not Available Fault
- 08: Double Fault
- 09: Coprocessor Segment Overrun

- 0A: Invalid Task State Segment Fault
- 0B: Not Present Fault
- 0C: Stack Fault
- 0D: General Protection Fault
- 0E: Page Fault
- 10: Coprocessor Error Fault
- 11: Alignment Check Fault

Windows NT/2000 Installation

Resolve Initial Omissions To Get Off To A Good Start

In recent years, installing an OS (operating system) has grown easier and easier. However, computer freezes, frustrating error messages, and unexplainable behavior during installation can make an otherwise rational person pull his or her hair out. This article will show you where to begin to solve problems that occur when you install Windows 2000 or Windows NT 4.0.

Before you spend money on any new OS, do a little research to see if that particular OS is what you need. Make sure that the OS will run with your hardware and software. For Win2000, you can find compatibility information at <http://www.microsoft.com/windows2000/upgrade/compat/default.asp>. For WinNT, see <http://www.microsoft.com/windows/compatible/default.asp>. Some games, digital cameras, scanners, sound cards, and other hardware and software may not work with Win2000 or NT. You may need to install new drivers for your hardware or upgrade the firmware (flash ROM controllers) on devices such as CD-RW (CD-rewriteable) or DVD drives. Look at the Web pages for your hardware vendors to make sure that they offer drivers compatible with your OS. Also, search the Web pages of your software vendors to make sure that your programs will run or find out if you need to upgrade your software version.

If you have problems or questions concerning the installation of WinNT or 2000 that we don't cover in this article, look for other installation information at our Web site at <http://www.smartcomputing.com>. You also can search Microsoft's Knowledge Base (<http://search.support.microsoft.com>) and the Microsoft Diagnostic Solution Guide (<http://dsg.rte.microsoft.com>) for solutions.

■ Pre-Installation Procedures. Before installing Win2000 or NT, you should take some time to prepare so you can prevent potential problems. First of all, do you plan to install Win2000 or WinNT 4.0? Win2000 is a faster, more robust system than NT, supports more hardware including USB (Universal Serial Bus) and Plug and Play, and has a more intuitive user interface. Furthermore, Win2000

is much easier to set up and maintain than NT 4.0. Install Win2000 unless you have hardware or software that is incompatible with 2000 and no upgrade is available from the vendors yet.

In addition, it is critical to your sanity and livelihood that you make backup copies of all your important documents. If something goes wrong during the installation, it's relatively painless to reinstall the OS and programs, but it can be extremely difficult or impossible to recover lost documents without a backup. You might also want to save the files that store your e-mail. If you use Microsoft Outlook, search for the *.PST file and save it to your backup media. Also, make sure that you back up your documents to a different physical device than the one on which you will install your OS; use another hard drive, a CD-R (CD-recordable) disc, or a

removable disk (not just another partition on the same hard drive). For more information about backups, see "Hold It!" in this issue.

Another important decision you must make is whether to upgrade or perform a complete installation of the OS. Each choice has advantages and disadvantages. Upgrading keeps your existing programs and files but can inexplicably cause slower performance later if your programs are buggy or your old system was prone to crashes. If your data is safely backed up, then installing an OS from scratch is the safest alternative. You can be comfortable with this option because if some strange error occurs, you can always begin the installation again. In fact, sometimes the best solution to an installation error is simply to try again. If the problem recurs, then you'll know where to begin to look for a solution. If the problem doesn't happen



again, then your new configuration choices probably solved it.

On the down side, if you perform a complete installation, you'll also need to reinstall your programs. Make sure you have the registration numbers for your programs on hand before you begin the entire process.

■ Installation Errors That May Occur Anytime. The installation procedure for NT 4.0 is similar to that of Win2000. If your computer encounters a problem when you install an OS, the time that the problem occurs often indicates what is wrong and what you need to do to solve it. On the other hand, some problems may occur at any time during setup.

This section tackles problems that may occur at any time—we will discuss problems that happen at specific times in sections that follow.

If you have trouble installing Windows, you will either get a stop error message (or the Blue Screen of Death) stating what went wrong or else the installer program will halt or freeze at a certain point and refuse to continue. Stop errors during installation are frustrating but usually provide information about how to fix your problems. Error messages can vary between WinNT and Win2000. When you get a stop error, write down all the information on-screen exactly—cryptic error messages often help when you are attempting to find a solution to the problem from the Microsoft Knowledge Base or other sources. The Win2000 Getting Started manual describes many stop error messages and their solutions.

*** Error Message:** Hung, frozen, or black screen during installation.

Translation: Something went wrong during installation and the PC stopped functioning before the installer program was able to display a stop error message.

Solution: Long waits do not necessarily mean that the installer encountered a problem. Before you press the computer's reset button and restart the installation, wait long enough to make sure that the system is frozen. Be patient, go have some coffee or make some phone calls. If after an hour or so the screen is still hanging at the same spot, then restart the installation. If your system freezes during installation, make a

note where the installation stopped. Often, you can narrow down your problem by knowing when the freeze occurs.

Frequently, installation freezes are caused by incorrect settings in the CMOS (complementary metal-oxide semiconductor). The CMOS stores special configuration settings for your computer's hardware and is used by the BIOS (Basic Input/Output System) when your machine boots. Your motherboard or system should have come with a manual that describes the CMOS settings. If you don't have a manual, download one from your manufacturer's Web page. To

where the CPU pauses while waiting for data from slower components.) Adding a wait state causes the computer to address the memory less quickly and often fixes unexpected freezing problems, black screens, or unprovoked reboots. After Windows is fully installed, use the new system for a while to make sure it is stable. Then, restart the system and change the CMOS settings back. If the system remains stable, keep the settings; otherwise return to the stable settings permanently.

Bad RAM chips or a boot sector virus can cause inexplicable freezes during installation. If you suspect your memory might be the trouble and you have extra RAM chips around, try the installation with the other chips instead. If you think you have a boot sector virus on your hard drive, then use a bootable CD-ROM or diskette to check and clean your hard drive using programs such as Norton AntiVirus (<http://www.symantec.com>) or McAfee VirusScan (<http://www.mcafee.com>).

*** Error Message:** "Stop Error 0x0000000A (IRQL not less or equal)"

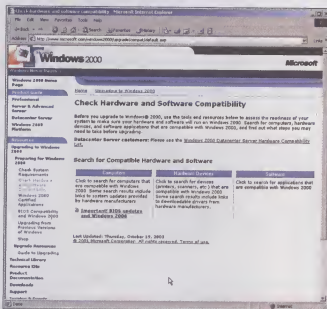
Translation: Drivers for some hardware devices are using conflicting memory addresses.

Solution: Turn your PC off, open the case, and take out all hardware cards not required for the setup. Leave your video card (and SCSI card if you have a SCSI hard drive or CD), but remove your modem, sound card, scanner card, network adapter, MPEG decoder, etc. After the OS is installed, shut down the machine, plug in one card at a time, boot into the OS, install the drivers for the card, and configure it. Begin with the sound card (because it consumes a lot of resources) and then add your network card, modem card, and others. If you get this error message again, then the hardware you are installing is probably not compatible with your version of Windows. Check with your hardware vendor or Microsoft's Hardware Compatibility List.

*** Error Message:** "Stop Error 0x0000001E (KMODE exception not handled)"

Translation: The kernel attempted to execute an illegal or unknown instruction.

Solution: This error sometimes occurs if you have an ATA/66 UDMA 4 (Ultra Direct Memory Access) or faster hard drive and your



You can check your computer and its devices for Hardware And Software Compatibility with Windows 2000 at Microsoft's Windows 2000 Web site.

change the CMOS settings, press the keys as shown in your manual or on your PC's startup screen (often DELETE, ESC, CTRL-ESC, or CTRL-ALT-ESC) immediately after you boot your computer. If you change any of the CMOS settings, write down your changes and keep them in a safe place. Then you can refer to the settings if you need to change them back or redo them if you reinstall or upgrade to a new version of Windows later on.

Incorrect CMOS settings for system cache memory and RAM may confuse the Windows installer and freeze the system. If your system freezes during setup, try disabling the system cache memory. If you are able to install the system after your CMOS changes, then you fixed the problem. If this doesn't work, then try adding a wait state to (or slowing down the timing on) your RAM. (Wait states are periods

motherboard doesn't support a fast data rate transfer. If your hard drive supports ATA/66 or faster, it may have a label letting you know of its fast transfer rate. If not, check with your system or hard drive vendor. Check with your motherboard manufacturer to see if you're using the latest BIOS. To get around this stop error, reboot your PC and enter your BIOS' CMOS settings (to find out how, see the error "Hung, frozen, or black screen during installation," above). In the "Chipset features setup," disable UDMA on the IDE (Integrated Drive Electronics) channel with the hard drive and set your PIO (Programmed Input/Output) to mode 4 for that channel. The PIO mode determines how fast data is transferred between the processor and the hard drive. Disabling the UDMA causes the hard drive to communicate through the processor and not directly to the memory. You should be able to install Windows, but your drive won't be at its fastest without UDMA enabled. After installation, you can try changing the UDMA and PIO back to see if WinNT or Win2000 is stable. If not, you will need to retain those settings for as long as you use that motherboard and hard drive.

*** Error Message:** "Stop Error 0x00000023" or "0x00000024 (FAT or NTFS file system)"

Translation: The NTFS (NT file system) driver has a problem.

Solution: Start the installation over. Reformat and repartition your hard drive from scratch. See "Stop Error 0x00000058" below for partitioning instructions.

*** Error Message:** "Stop Error 0x0000002E (Data BUS error)"

BIOS Updates

When you install a new operating system, you should make sure that your computer's BIOS (Basic Input/Output System) is the latest version and that is configured correctly. The BIOS is a set of software routines stored on your motherboard that tests your computer's hardware at startup, starts the operating system, and controls data transfer between

your computer's hardware devices. The version number and date of your BIOS display just after you boot your machine—look for them at the upper- or lower-left corners of the screen. Write down these numbers, then go to the Web site of your motherboard or system manufacturer and check for the latest BIOS update. If your BIOS is more than three years old,

you should definitely look for an update. Updating your BIOS may give your computer better performance for devices such as video cards, USB ports, IDE devices, and memory. Take care! You can damage your motherboard if you upgrade your BIOS incorrectly. Carefully follow the steps that your motherboard or system manufacturer recommends. □

Translation: There is a memory error due to a hardware problem.

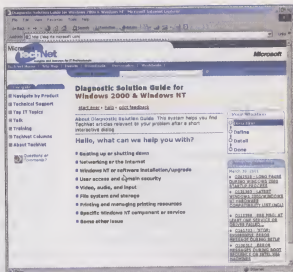
Solution: Something is probably wrong with your BIOS, CMOS settings, or RAM chips. See the possible solutions we discussed previously for the error "Hung, frozen, or black screen during installation."

*** Error Message:** "Stop Error 0x00000058 (FTDISK internal error)"

Translation: Your PC's primary hard drive failed.

Solution: Start the installation over, and repartition and reformat your hard drive from scratch. If the problem continues, you probably have a bad hard drive.

To partition your hard drive for a new OS, boot from the installation CD or floppy diskettes and follow the instructions. After several screens, the installer program will display a list of all the hard drives in your PC. A single hard drive can contain a number of partitions that appear as separate hard drives within Windows Explorer. Remember, creating or changing partitions causes data on those partitions to be wiped out, so make sure your data is backed up before you partition. In Win2000 you should probably use the entire drive for a single partition, unless you have special reasons not to. In WinNT before Service Pack 3 the primary partition (where the OS files are) is limited to 2,048MB, and no hard drive will appear larger than 8,057MB. For WinNT, format the primary



Step through solutions to errors with Microsoft's Diagnostic Solution Guide.

2,048MB partition now and format the rest of the hard drive later from the installed OS after you install the most recent Service Pack.

*** Error Message:** "Stop Error 0x00000079 (Mismatched HAL)," "HAL.DLL is missing or corrupt," or "Replace HAL.DLL with the correct HAL for this system."

Translation: The Hardware Abstraction Layer is incorrect for the machine. This occurs when one machine mixes single and dual processor configuration files.

Solution: In WinNT, restart the installation and when the message "Windows NT is examining your hardware" appears, press F5. Choose your computer type from the list that appears and continue with the installation. You probably won't run into this error in Win2000 unless you have installed a new motherboard or are moving a hard drive from one machine to another. In Win2000, you should begin the installation process again and install a clean copy of the OS. If you continue to get this error, repartition and reformat your hard drive from scratch and install Windows. If that doesn't solve it, something is probably wrong with your motherboard.

*** Error Message:** "Stop Error 0x0000007A (Kernel data inpage error)"

Translation: This occurs due to a memory error from a faulty hardware device or virus.

Solution: Check the solutions to RAM troubles for the error "Hung, frozen, or black screen during installation," above.

* Error Message: "Stop Error 0x0000007B (Inaccessible boot device)"

Translation: The boot device (hard drive, CD, or floppy diskette drive) that is set in your PC's CMOS can't be found or has problems.

Solution: Check the solutions to CD and IDE device troubles under the error "System cannot boot from the CD drive," below.

* Error Message: "Stop Error 0x0000007F (Unexpected kernel mode trap)"

Translation: The installer program found an incompatibility between your machine's hardware components or with the motherboard.

Solution: Follow the same solution as for stop error 0x0000000A, above.

* Error Message: "Stop Error 0x00000221 (Status image checksum mismatch)"

Translation: The installer program found a corrupt driver or DLL (dynamic-link library) for some hardware device.

Solution: Follow the same solution as for stop error 0x0000000A, above.

■ During Storage Configuration

The first of the two steps in installing WinNT or Win2000 is to configure the storage media on the PC. During this step, you will input information in a DOS-like console. In this step, the OS installer program examines your hard drive, floppy diskette drive, and the CD or DVD drive on your PC. The OS installer program needs to figure out how to read the OS files from the CD-ROM or floppy diskette drive, and where to write those files on your hard drive. The errors listed below may occur when the installation program configures your PC's storage media.

* Error Message: "System cannot boot from the CD drive"

Translation: Even though you can begin an installation or upgrade from a machine with Windows running, the OS installer program will work more smoothly if no other programs are running in the background on your computer. Therefore, it is best to run the OS installer program by booting from a CD drive or the installation diskettes.

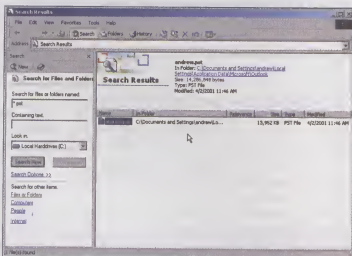
Solution: First, check the installation CD itself. If it is dirty, carefully clean the installation

disc using a soft cloth (not a paper towel) moistened with water, dry it off, and try again. If you suspect that the CD is faulty, try to boot with it on another machine. You can request a replacement installation CD from your computer manufacturer or Microsoft.

Try to boot your PC from a different bootable CD (perhaps another Windows installer CD or a virus checker CD). If you cannot boot from your CD drive, check the CMOS boot order settings. (To find out how to enter the CMOS settings, see the error "Hung, frozen, or black screen during installation.") In your CMOS's "BIOS Features Setup," make sure your boot order is set correctly to start from the CD drive. If you do not have an option to boot from the CD drive, then you must boot from installation diskettes. During installation, you generally want to boot from

IDE cable connects pin 1 on your CD and hard drive to pin 1 on your motherboard's IDE channel. Usually, IDE ribbon cables have a red strip on the pin 1 side of the cable. Make sure that each IDE channel has only one device set to master and only one slave. You can set master and slave settings by setting the jumper pins on the drives themselves. (Often the jumper settings are printed on the top of the drive; otherwise you need to look in the drive documentation.) Perhaps an IDE channel on your motherboard is broken due to stress around the connectors. Try changing your CD to a different IDE channel by disconnecting the IDE cable connected to your CD from the motherboard, and plugging it into the other IDE channel. If all else fails, check with Microsoft or your hardware vendor to see if your CD drive or hard drive and controller are supported or need special configuration settings. Finally, check if the CD or hard drive is broken by manually installing and testing it in another PC.

If you have a SCSI CD or hard drive, read the manual for your SCSI controller card and make sure that the drive is properly terminated, the SCSI ID of the hard drive is set at zero, and the BIOS on the controller card is enabled correctly.



Back up the files that store your e-mail. In Microsoft Outlook, search for the *.PST file and save it to your backup media.

your drives in the following order: diskette, CD, hard drive. Some older motherboards and systems do not support booting from a CD, while others add this functionality after a BIOS upgrade. If the boot order is correct, make sure that all your IDE channels are enabled in your CMOS's "Chipset Features Setup." If you can't boot from your CD drive, boot from the diskette drive instead. You can create installation diskettes using the utility on the Windows 2000 CD-ROM in \BOOTDISK\Makeboot.exe. Installing WinNT on a machine without a bootable CD drive means that you'll have to use the packaged installation diskettes to boot.

Problems detecting your CD or IDE hard drive may be caused by hardware. If you open your PC case, you can easily jostle cables loose. Make sure that your IDE drive cables are connected and working properly. Check that the

CMOS settings are set to boot from the floppy diskette (see "System cannot boot from the CD drive," above). If you think your diskettes are corrupt, check to see if they work in another PC. You can create installation diskettes using the utility on the Windows 2000 CD-ROM in \BOOTDISK\Makeboot.exe. Check whether your PC's diskette drive is broken by trying to read other diskettes. For more information, see "Diskette, CD & DVD Drives: Recover From Known Media Glitches" in this issue.

* Error Message: "Setup didn't find any mass storage devices on your computer"

Translation: The installer program couldn't locate a hard drive on which to install the OS.

Solution: Try the solutions for CMOS and hardware settings given for "System cannot boot from the CD drive," above, except check

Installation Advice

- Back up your files before installing or upgrading your operating system.
- Don't panic: you can find a solution when problems happen.
- Keep a record of your installation problems to help narrow down your search for a solution. Write down error messages and at what installation step freezes happen. Write down how you try to fix problems and why.
- Try solutions one at a time, so when a solution works you know what the problem was and how you fixed it.
- If setup is having trouble with your hardware, take all hardware cards not required for setup out of your PC. Leave your video card, but remove your modem, sound card, scanner card, network adapter, MPEG decoder, etc. Install the cards after installing the operating system.
- After installation, download and install the latest operating system fixes from Microsoft.
- Install updated drivers after you install the most recent Service Pack or System Updates.

the solutions on your hard drive, not the CD drive. Check to make sure you don't have a boot sector virus, as detailed in "Hung, frozen, or black screen during installation," above.

* Error Message: "Unable to load device driver"

Translation: A device driver file on one of your setup floppy diskettes or your hard drive may be damaged.

Solution: In Win2000, create new floppy diskettes and restart the installation. You can create installation diskettes using the utility on the Windows 2000 CD-ROM in \BOOTDISK \Makeboot.exe. If the problem returns, then the trouble may be with your hard drive. Start your computer in Safe mode, remove the offending driver, and start installation again.

■ **After Rebooting Into The GUI.** The second part of the installation of WinNT or Win2000 occurs after your PC reboots into a GUI (graphical user interface). During this part of installation you will configure the regional settings, computer name, administrator account, and networking, as well as copy the necessary OS files to finalize the installation. If you have made it this far, then you can probably install at least a minimum system. After this point, the rest is configuration. If an incorrect setup choice causes errors later on, just reinstall. The errors listed below may occur during the second part of installation.

* Error Message: "A Disk Read Error Occurred, Press Ctrl+Alt+Del to restart"

Translation: Your BIOS cannot read large partitions on your hard drive.

Solution: If you get a hard drive read error message after the Windows installation program reboots your machine, then your BIOS may not be capable of reading a hard drive the size that you set up. Some older BIOSes cannot read hard drives larger than 8,057MB. To solve this problem, begin the installation again, create a primary partition of 8,057MB for Win2000 or 2,048MB for WinNT, and format the rest of the hard drive after you have installed the OS. (See "Stop Error 0x00000058" above for partitioning advice.)

* Error Message: "NTOSKRNL.EXE is missing or corrupt"

Translation: This error message may appear if you are installing the OS on a partition other than the first one on the primary hard drive.

Solution: The simplest solution is to install your OS on the first partition on the disk located on your computer's primary master IDE channel. If you can't do that, then you need to edit the Boot.ini file on the primary master IDE disk boot partition. If the primary IDE drive is formatted as NTFS, you need to create a new installation of NT on another hard drive and then boot from that new installation to change the Boot.ini file. If the primary drive is formatted as FAT (file allocation table), you can change the Boot.ini by starting your computer with a bootable DOS floppy diskette. Go to the C: drive by typing C: and pressing ENTER. Then change the read only and system file attributes of Boot.ini by typing ATTRIB -S -R C:\BOOT.INI. Finally, edit the Boot.ini file, and change the line: [multi(0)disk(X)rdisk(0)partition(Y)winnt="Windows NT on ?"] where X=the drive number, Y=the partition number, and ?=the drive letter where WinNT is being

installed. For example, if you are installing onto the first partition of your primary slave IDE hard drive, and the drive letter is D, then type: [multi(0)disk(1)rdisk(0)partition(1)winnt="Windows NT on D:"]

* Error Message: "Stop: 0x0000007b Inaccessible Boot Device" or "0x4,0,0"

Translation: The installer program couldn't locate a hard drive on which to install the OS.

Solution: Try the solutions detailed under "Setup did not find any mass storage devices on your computer," above.

■ **Post-Installation.** A few things will make your newly installed OS more stable and help you later if you have problems. In Win2000, install the Recovery console (see the Getting Started Guide booklet packaged with Win2000, or use a keyword search after choosing Help from your Start menu).

For greater security and better functionality, install the most recent Service Packs, OS updates, Internet Explorer version, and the highest encryption pack available for your country. You can search for free downloads of the latest updates at <http://www.microsoft.com/downloads/search.asp>. For WinNT, you can download Service Pack 6a from <http://www.microsoft.com/ntserver/nts/downloads/recommended/SP6/allSP6.asp>. To update Win2000, you don't need to crawl through Microsoft's site to decide what you need. Instead, just choose Windows Update from your Start menu. If you are connected to the Internet, Microsoft's Update Wizard will see what updates your computer needs, present you with a list of updates, and let you download and install the updates automatically. To avoid shutdown freezes, reboot your machine immediately after you install any OS updates.

After your OS is up to date, configure your hardware drivers and programs. Download the latest hardware drivers for your video, sound, DVD, or other cards. Install your applications one at a time and reboot between installations so you can see if any cause a problem. If an application installation causes a boot failure, see if the vendor's Web page has a solution. You can learn more by choosing Help from your Start menu and using a keyword search. To review more of these error messages, you can access the Web-only portion of this article at <http://www.smartcomputing.com/learning/errors/NT2000.install>. [E]

by Andrew Kuster

Windows NT/2000 Startup & Shutdown

Making Your Arrivals & Departures As Pleasant As Possible

One of the most frustrating computer experiences is trying to troubleshoot errors that occur when your PC starts up. Even worse is the panic that sets in when your PC doesn't boot at all. Equally infuriating are errors and freezes during shutdown. This article presents solutions for many common errors that occur during startup and shutdown.

If you have problems or questions concerning error messages that we don't cover here, there are many other places to find help. At Microsoft's Knowledge Base (<http://search.support.microsoft.com>), you can search for articles dealing specifically with your problem. In addition, you can step through troubleshooting solutions at the Microsoft Diagnostic Solution

Guide (<http://dsg.rte.microsoft.com>). And if the problem seems to originate with your hardware, look at the home page of your system vendor or hardware manufacturer.

■ **Diagnostic Tools For Errors.** Some system tools included in Windows NT and Windows 2000 can help you diagnose and solve startup and shutdown errors. These tools are the Windows Task Manager, the Event Viewer, the Device Manager, and the Windows 2000 Microsoft Management Console (MMC).

Task Manager. The Windows Task Manager provides a summary of the applications and processes running on your computer. You can use Task Manager to start or end

applications or processes and display real-time information about your computer's memory and processor usage.

To open the Task Manager, access the Windows Security dialog box by pressing CTRL-ALT-DELETE. This dialog box lets you shut down the PC and open the Task Manager (as well as perform useful tasks such as Lock Computer, Change Password, and Log Off). You can also open the Task Manager directly by pressing CTRL-SHIFT-ESC.

Event Viewer. Use the Event Viewer when you want to know what went wrong during a startup or shutdown process. The Event Viewer logs system, application, or security information, along with errors and warnings. To access the Event Viewer in Win2000, log in as an administrator, click the Start button, select Settings, click Control Panel, double-click Administrative Tools, and choose Event Viewer. In WinNT, click the Start button, select Programs, click Administrative Tools (Common), and choose Event Viewer.

Device Manager. The Device Manager is an important administrative tool in Win2000 that can help you solve hardware problems. The Device Manager lets you view and change hardware device properties, install drivers, configure hardware settings, and uninstall devices. Drivers are programs that let hardware devices, such as modems, network cards, or printers, communicate with the OS (operating system). Device drivers load when the OS starts. To launch Device Manager, right-click the My Computer icon on your Desktop and select Manage.

MMC. The MMC consolidates several important diagnostic tools in one place. To manage your machine from MMC, select Run from your Start menu and type `mmc`. After the console appears, select Console, Add/Remove Snap In. Next, click Add, select Computer Management, specify "local" for your machine, and click OK. In the Computer Management directory tree, you can open System Tools to see the Event Viewer, the Device Manager, and other useful tools.

■ **Emergency Startup Options.** If your PC fails to boot normally, there are a number of ways you can boot it for emergency repairs. To repair corrupt system files, you can boot your PC using your installation media. To correct certain kinds of problems, you can also try to use an Emergency Repair Diskette, access the Last Known Good Configuration, boot in Safe mode, or boot with the Recovery Console.



Boot your PC using your WinNT or Win2000 installation CD-ROM or floppy diskettes to recover or repair your system if your hard drive failed or some of your system files are missing or corrupt. You can use an Emergency Repair Diskette in conjunction with this method to restore your system Registry to the way it was the last time you updated your Emergency Repair Diskette. For information about how to create an Emergency Repair Diskette, see "Routine Maintenance" on page 42.

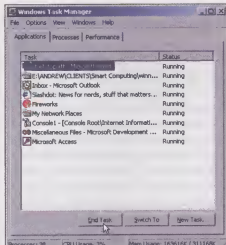
You can use the Last Known Good Configuration to start your computer if you can't start the OS after you installed a new driver or changed a driver configuration. The Last Known Good Configuration will start the OS using the Registry information saved from the last successful shutdown. If you use this option, you will lose any system changes that you made after your last successful shutdown.

To boot using the Last Known Good Configuration in Win2000, start your PC, wait for the OS choices menu to appear, press the F8 key, and select the appropriate option. In WinNT, choose Last Known Good Configuration by pressing the Spacebar immediately after you choose WinNT from the OS choices menu.

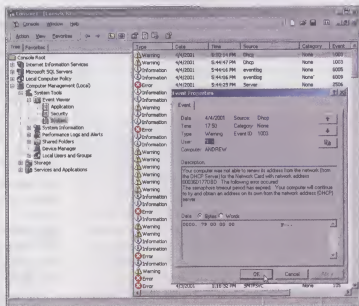
You can use Win2000's Safe mode to diagnose and repair startup problems caused by incorrectly configured or faulty device drivers. Safe mode starts your computer with only minimal services and drivers, including access to your mouse, monitor, keyboard, storage, and minimal video settings.

To boot into Safe Mode, start your PC, wait for the OS choices menu to appear, press the F8 key, and select the appropriate option. If necessary, you can boot using the Safe Mode Networking option or the Command Prompt option, which are just like the default Safe mode, except with networking components or without the GUI (graphical user interface).

If your startup problem does not reappear in Safe mode, then you know that your PC's default settings or minimum device drivers are fine. If recently added hardware or a changed hardware driver is causing trouble, uninstall the device or undo the change, and often you will be able to reboot normally.



The Windows Task Manager shows applications and processes that are running or currently not responding on your computer.



The Microsoft Management Console displays System log files in the Event Viewer. Double-click a log entry for a detailed Event Properties box.

The Win2000 Recovery Console is a powerful repair tool. With the Recovery Console, you can run, copy, rename, or replace OS files and folders; enable or disable devices or services from starting the next time you boot; repair your hard drive's Master Boot Record; and create and format hard drive partitions. Be careful, though. If you use the Recovery Console improperly, you could damage or lose all the files on your hard drive.

The Recovery Console isn't automatically included with a Win2000 installation, so you'll need to install it (for more details, see the Win2000 Getting Started manual or select Help from the Start menu to perform a

keyword search). Or, you can also run the Recovery Console by booting from your installation media.

■ **Resolve Startup Errors.** Booting your PC into WinNT or Win2000 involves two steps. The BIOS (Basic Input/Output System) on your computer's motherboard controls the first step, and the OS controls the second step.

Errors that occur when the BIOS is in control of the boot process are often caused by faulty hardware, an out-of-date BIOS, or a boot sector virus on your hard drive. During a normal startup, the BIOS checks for basic problems with your motherboard, memory, video devices, and other internal components. The BIOS can also detect new plug-and-play hardware and assign new hardware resources that do not conflict with your other hardware. You can control the BIOS by changing settings in the CMOS (complementary metal-oxide semiconductor). After successfully completing its job, the BIOS hands over its control of the computer to the OS.

Errors that occur when the OS is in control of the boot process can be caused by a virus; incompatible or faulty hardware device drivers; and damaged or incorrectly configured system files, services, or startup programs. When they start up normally, WinNT and Win2000 load drivers for your hardware devices (such as your video card, sound card, networking card, and so on). After properly loading all of the required drivers and starting the GUI and all necessary services, the logon window appears on-screen, indicating that your computer is ready for use.

* Error Message: "Non-System Disk" or "A Disk Read Error Occurred"

Translation: The BIOS cannot load an OS from one of your computer's boot devices.

Solution: Make sure that you don't have a diskette in the floppy diskette drive that your PC is trying to boot from. You can try repairing the installation by following the instructions we describe for the next error message's solution. If that doesn't work, then your CMOS settings may not be configured to read your hard drive, or perhaps your drive is damaged or corrupt. Follow your motherboard manual's instructions

to enter the CMOS and set your hard drive configurations to AUTO detect settings.

If you have WinNT and a hard drive larger than 8,057MB, then you may need to install a special driver for the hard drive (which should be on a diskette that came with the drive or available from the manufacturer's Web site). If your computer's startup screen says that your BIOS is more than a few years old, perhaps a BIOS upgrade (available from your motherboard's home page) will solve the problem.

*** Error Message:** "A kernel file is missing from the disk" or "Couldn't find NTLDR"

Translation: The OS could not find the NTLDR program in the root directory of the boot drive.

Solution: Boot from your installation media and choose "R" to repair. You will then be asked for an Emergency Repair Diskette. (If you don't have one, don't repair the Registry when asked to do so.) When you are in the Repair utility, choose the default choices. If your hard drive is not corrupt, the Repair utility will detect that a

system file is missing and reinstall it in the correct place. This error may be the result of a corrupt hard drive, so after rebooting, check the drive for errors and repair them. To do this in WinNT or Win2000, double-click My Computer on your Desktop, right-click the icon associated with your hard drive, select Properties, choose the Tools menu, and click Check Now.

You can also check your hard drive for errors from the command line using the Recovery Console by typing `chkdsk /f /t`. After you are able to boot your PC without trouble, WinNT users should connect to the Internet and install the latest Service Pack for WinNT (<http://www.microsoft.com/ntserver/nts/downloads/recommended/SP6/allSP6.asp>), or Win2000 users should click Start, Windows Update to install the latest OS fixes. To be on the safe side, reinstall the updates after any repair because the repair process may replace a system file with an older version that isn't updated.

If your hard drive is corrupt and cannot be repaired by using the suggestions we just provided, attempt to repair it by physically reinstalling the drive as a secondary drive in another

computer with WinNT or Win2000 installed, boot the system, and then repair the damaged drive. If you still cannot repair the hard drive, attempt to save the data files from the broken drive on the system's hard drive that is working. Then, reinstall the drive into the original machine, boot from your installation media, reformat the bad drive from scratch, and reinstall your OS and programs. If you have trouble with the drive after this, then it is probably beyond repair. If your hard drive is under warranty, send it back for a replacement. Otherwise, buy a new one. You'll recover from an event such as this if you regularly back up your data.

*** Error Message:** "NTDETECT Failed" or "Error Opening NTDETECT"

Translation: This error may be the result of a number of problems. Most likely, the file Ntdelect.com is missing or damaged. Otherwise, you might have a problem with the Boot.ini file.

Solution: First, try to repair Ntdelect.com by following the same solution as the previous error message. Then, if repairing Ntdelect.com did not fix the problem, the trouble is probably with the Boot.ini file. To edit Bootini, follow the instructions we provided for the previous error message. If the timeout in Boot.ini has been set to 0, change it to 5. Too small of a value might confuse WinNT or Win2000. See "The Boot.ini File" sidebar for more information about how to correctly specify your boot settings.

*** Error Message:** "The system did not load because of a computer disk hardware configuration problem. Could not read from the selected boot disk."

Translation: The location of your OS is not configured correctly in the Boot.ini file.

Solution: You need to boot using an Emergency Repair Diskette or the Recovery Console in order to edit the file. After you boot, type `attrib -s -r c:\boot.ini` at the command line to make sure the Boot.ini file is editable. Type `edit boot.ini` to read and change the file. Check to make sure that the path to the default OS in the boot loader section is identical to one listed in the "operating systems" section. If you recently added any CD, DVD, or disk drives, changed IDE channels, or switched the master/slave settings on any of your IDE drives, then the path to your OS probably has changed. See "The Boot.ini File" sidebar for more information.

■ **Additional Boot Delays.** When your WinNT or Win2000 PC isn't cooperating during the opening seconds of a computing session,

The Boot.ini File

Boot.ini is the configuration file in charge of your computer's boot process. Be careful while editing this file because mistakes can stop your PC from booting into Windows.

Before you change the Boot.ini file, create a backup copy on removable media (such as a diskette or Zip disk) so that you can return to the original file if you make a mistake. To edit this file, turn off the Read-Only attribute in the file's Properties, and then double-click it to open it with Notepad.

The file has two sections: boot loader and OSes (operating systems). The boot loader section lists the amount of time (in seconds) before you need to choose an OS when your system is trying to start the boot

process, as well as the default OS that starts if the "timeout" expires. The OSes section lists the partitions containing each available OS on your PC. Each line in the OSes section looks something like this:

`multi(0)disk(0)rdisk(0)partition(1)WINNT="Microsoft Windows 2000 Professional"`

Depending on the type of hard drive you have, your system might display `"scsi(0)"` or `"signature(0)"` instead of `"multi(0)"`. The `"disk(0)"` portion represents the IDE (Integrated Drive Electronics) hard drive in your PC, where 0 is the primary master and 3 is the secondary slave. The `"rdisk(0)"` portion (in SCSI) and the `"partition(1)"` portion (in IDE) lists the partition on the drive containing that OS. `"Partition(1)"` represents the

first partition on the hard drive. The `"WINNT"` attribute (for both WinNT and Win2000) lists the text that displays for that particular OS choice during the boot loader timeout before the boot process begins.

Incorrectly altering the existing Boot.ini entries will cause problems with your system's boot up process. Instead, append an additional entry for testing purposes until you are sure that your settings are correct. To do this, make a new entry identical to an original entry, except add `"test"` to the end of the `WINNT=` string. This new entry might look like: `multi(0)disk(0)rdisk(0)partition(1)WINNT="test"`

When your system boots properly, you can then delete the bad entries. □

that's when you know something is amiss. Determining what exactly is missing is your next step toward resolving the problem. Many start-up messages display clues to help you.

*** Error Message:** "Windows could not start because the following file is missing or corrupt: \WINNT\SYSTEM32\CONFIG\SYSTEMCED"

Translation: Part of your computer's System Registry is damaged or missing.

Solution: You need to replace the Registry with a backup, and then reinstall any programs or any hardware device drivers that you installed since the last time you created an Emergency Repair Diskette.

Then, if you installed the Recovery Console, choose it from your startup boot options. If not, boot the PC from the Win2000 CD-ROM or the startup diskettes. Press R to repair the system, and press C to run the Recovery Console. Select the installation that you want to repair and type the administrator password. Once in the Recovery Console, back up and rename the offending system files by entering the following commands at the command prompt:

```
cd system32\config
ren system.system.old
ren system.alt.systemalt.old
```

Next, copy the Registry. If you never made an Emergency Repair Diskette, copy the default Registry by typing `copy c:\winnt\repair\system`. To copy the Registry that you backed up the last time you made an Emergency Repair Diskette, type `copy c:\winnt\repair\regbak\system`. Finally, type `exit` to restart your PC.

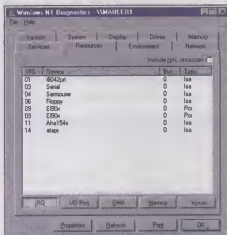
*** Error Message:** "Stop: 0x0000002E" or "Data Bus Error" or "Hardware Malfunction"

Translation: Your computer has a hardware problem. This problem could be caused by defective memory, bad cache memory, bad video RAM, incorrectly configured or incompatible hardware, a bad device driver, a Master Boot Record virus, or hard drive damage.

Solution: If you just added new hardware, turn your PC off and make sure that the hardware is plugged in and installed correctly. If you added a new device driver, start the computer in Safe mode, uninstall the driver, and restart the computer. Use the Event Viewer to look for messages that might blame the driver or the device itself. Visit the home page of the vendor to see if an updated driver exists for your OS.

You can find out if your memory is bad by turning off your PC, opening the case, and removing your memory modules one at a time. Follow your motherboard manual's instructions for memory installation and handling. If you have only one module, switch it with another. If you can reboot and the error does not reappear, then the memory module that you removed is not working correctly.

If you just installed or upgraded your OS and you receive this error, you may need to update your motherboard's BIOS. Use another PC to get online and visit the manufacturer's site, download the latest BIOS, and follow the instructions



Accessing the Windows NT Diagnostics tool is a good way to find conflicting hardware resources.

to update it. If you have a SCSI (Small Computer System Interface) hard drive, you may also need to update the BIOS on your SCSI card.

This error can also occur if your hard drive has a boot sector virus or is damaged. Use a bootable disc or diskette to check and clean your hard drive using programs such as Norton AntiVirus (<http://www.symantec.com>) or McAfee VirusScan (<http://www.mcafee.com>).

*** Error Message:** "The DHCP client could not obtain an IP address."

Translation: A networking component on your PC cannot find a DHCP host to give it an IP address.

Solution: If you are connected to a DHCP server (such as a DSL [Digital Subscriber Line] router), make sure that the network cable is connected to your PC and is working properly. Also, check that the DHCP server is running properly (you may need to ask a system administrator). If you are not supposed to connect to a DHCP server, use the Event Viewer to find out which network device wants to connect to your

system, open the Start menu, select Settings, and click Control Panel. Double-click the Network, access the TCP/IP Protocol Properties for the offending device, and disable DHCP resolution.

*** Error Message:** "At least one service or driver failed during system startup"

Translation: This error message might be caused by an incorrect hardware configuration, startup program settings, or bad data in the system Registry.

Solution: First, find out what caused the error by looking in the Event Viewer. If you have conflicting hardware settings, the Event Viewer will tell you what device is failing. Is your sound card conflicting with your internal modem? Is your serial port conflicting with your SCSI card? Win2000 Plug and Play resolves many of these hardware configuration errors automatically, but finding solutions in WinNT can be a long and tedious process.

In WinNT, you may need to change the IRQ (interrupt request lines), I/O (input/output) address, or DMA (direct memory access) settings in a number of control panels (dialog boxes accessed by double-clicking icons in the Control Panel), such as Ports, Modems, and Multimedia. Begin by looking at hardware settings by opening the Start menu and selecting Programs, Administrative Tools (Common), and Windows NT Diagnostics. Check with the hardware vendor for configuration instructions. Work slowly and carefully. Only change one setting at a time, and then reboot to see if you solved the problem.

If you can't fix it, you may need to uninstall drivers for all unessential hardware (all your cards, except any SCSI and video cards), turn off the computer, remove the hardware, and reinstall each card and its driver one at a time. Begin this process with your sound card because it consumes the most resources, and then, one by one, install your network card, modem, MPEG decoder, and other cards.

In WinNT, if the Event Viewer has an error that says: "Could not start 'service name' service on \\<computer name>; Error 0005: Access is Denied," or "The service failed to start due to the following error: The system cannot find the file specified," then a key in your system Registry may contain a long file name with spaces. For some reason, WinNT sometimes has trouble with spaces in Registry keys containing paths to files. To correct the problem, select Run from your Start menu and type `regedit` in the field provided to open the Registry Editor. Before editing any Registry files, remember to be extra careful because mistakes made here have

no "undo" button and can cause your OS to stop functioning. It is always best to back up your entire Registry before you change anything. Open the HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\<service name> Registry key. Change the ImagePath string value by typing quotes (") around the data value. Save the Registry and reboot your PC.

In WinNT, if the Event Viewer has an error that mentions the "Messenger" service, a network program or driver may have altered an essential Registry setting. To fix this, select Run from the Start menu and type regedit32 in the field provided. (Again, back up your Registry before you change anything.) Open the HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\Messenger Registry key. Make sure that the multi-string value DependOnService includes the data values "Lanman Workstation" and "NetBios." If the Registry doesn't have these values, add the missing value, save the Registry, and reboot your PC.

■ **Shutdown Problems.** To prevent data loss or file corruption, you should always shut down your PC by choosing Shut Down from the Start menu, Logon screen, or Windows Security window. This directs the OS to write all system settings that have changed to the hard drive, clear the disk cache of many temporary files, and close all open applications and services. Additionally, your computer will power down more quickly and with less chance of errors if you close all open applications before shutting down.

✱ **Error Message:** Your system hangs while trying to shut down (for less than five minutes), but finally shuts down.

Translation: Your PC is handling the operations needed to shut down properly.

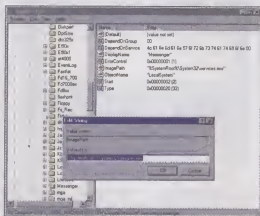
Solution: If you receive an error message while your PC shuts down, make a note of which service or application is not responding so you can configure it properly the next time you boot your system. For now, in response to the error message, choose End Task if you think that it's safe to do so and it won't result in losing data. If you're not sure, choose Wait. If you wait and a similar error message reappears, choose End Task. When you reboot, look in the Event Viewer to see what went wrong. You can disable unnecessary services from starting up at boot time in MMC. Open MMC and choose Computer Management, click Services And Applications, open Services, and then select a service to disable. On the other hand, if your

computer finally shuts down with no error message, it is functioning normally. However, the next time you boot your system, check to see if a service is exiting improperly in the Event Viewer and then see the solution that accompanies the next error message.

✱ **Error Message:** Your system freezes while trying to shut down, and your keyboard and mouse don't work.

Translation: Your system is improperly exiting applications or services, or it is experiencing hardware problems.

Solution: If you can't shut down using the Windows Security window or Task Manager, or if your keyboard or mouse stops responding, then you have two last-resort options. You can turn your computer off by pressing the power switch or the reset button (the latter of which is slightly less jarring to the system). Both of these methods may result in lost data or corrupt files.



Changing a Registry value is often the only way to resolve specific error messages. You'll need to use the Registry Editor to accomplish this.

The next time you reboot WinNT or Win2000, check and repair your hard drive(s) for errors by double-clicking My Computer on your Desktop, right-clicking the icon associated with your hard drive, selecting Properties, choosing the Tools menu, and clicking the Check Now button.

Other shutdown freezes can be caused by faulty software or hardware. After you reboot, check the Event Viewer for clues. Common software culprits are virus protection software, power management tools, or network services (such as NetWare). If you can shut down normally with one of these software components disabled, then you may have pinpointed the problem. Look for updates at the vendor's sites.

Problematic hardware sources can include sound cards, network cards, system BIOSes, and

other devices. To alleviate shutdown freezes, try to update hardware drivers and your BIOS regularly. Check the hardware vendor's Web sites for new drivers, and make sure your hardware is compatible with WinNT or Win2000.

✱ **Error Message:** "Windows application cannot respond to the End Task request. Wait, End Task, or Cancel?"

Translation: An application or service is not exiting properly. Your PC cannot proceed with the shutdown until you tell it what to do.

Solution: Write down which service or application is not responding so you can configure it properly the next time you boot your machine. Fortunately, this error message tells you exactly what is causing the problem. So, make your selection accordingly. Choose End Task if you believe doing so will not cause data loss. (For example, if the error message mentions the faxing service as the problem and you didn't need to send a fax that day anyway, go ahead and click End Task.) If in doubt, choose Wait. If you wait and a similar error message reappears, choose End Task.

Later, when you reboot, look in the Event Viewer to see what the problem was. You can disable unnecessary services from starting up at boot time in MMC. Open MMC and choose Computer Management, click Services And Applications, open Services, and then select a service to disable.

✱ **Error Message:** Your shutdown completes normally, but the power button does not turn off the system.

Translation: Your system may have an ATX (Advanced Technology Extended) motherboard with a CMOS setting that requires you to hold the power button for five seconds or so before the PC powers down.

Solution: Try pressing and holding the power button down to turn off your computer and see if this resolves the problem.

■ **The Lowdown.** The solutions we described here should solve the vast majority of the start-up and shutdown error messages you might encounter. To review more of these error messages, you can access the Web-only portion of this article at <http://www.smartcomputing.com/learning/errors/NT2000startup>. If your system's problems persist and you've checked all the resources we mentioned, a clean installation of your OS might be necessary. [E]

by Andrew Kuster

Windows NT/2000 Hardware

Helpful Hints To Handle Hardware Hiccups



When something goes wrong in Windows, the operating system usually lets you know immediately by popping up an error message on your monitor screen. This is where the fun begins. While error messages might make some sense to power users or to technical support staff, they might as well be written in Egyptian hieroglyphics for the rest of us. Messages can be that difficult to interrupt and decipher.

This article looks at some of the most common hardware-related error messages you might encounter when using Windows NT or Windows 2000. We also provide explanations for what particular messages mean and remedies (if one exists) for the problems so you can hopefully prevent messages from appearing in the future. Unless otherwise noted, the error messages on the pages that follow can appear in either WinNT or Win2000.

■ **Death On The Blue Screen.** The Blue Screen of Death, sometimes simply known as BSOD, is one of the most infamous and feared Windows errors. The BSOD can literally

strike from seemingly out of nowhere without any warning, turning your monitor screen blue with a long list

of gibberish displaying on it. Two factors give the BSOD its fearsome reputation. First, the messages that accompany it are typically very cryptic. In fact, for many users, it's nearly impossible to even begin to decipher these messages.

Second, the only way to recover from the BSOD is by restarting your computer.

If you should face the BSOD, always look at the top of the screen. There you should see the word STOP: followed by an error code and/or a string of numbers and letters. This is the part of the error message that can help you determine the cause of the error. Below are related error messages.

***Error Message:** "STOP: 0x000000B8 (0x00000000,0x00000000,0x00000000,0x00000000) ATTEMPTED_SWITCH_FROM_DPC address 0xf729a248 in XX"

Translation: This message can appear when Windows tries to access an Iomega Zip drive that is connected to your computer's parallel port and runs into a problem with either a Ppa.sys or Ppa3.sys file, which is represented by XX in the error message above. These files are drivers used by the Zip drive that may be corrupt and are interfering with other Windows processes. They may also be incompatible with the version of Windows you're using.

Solution: Microsoft has a fix for this problem, but to get it, you have to contact Microsoft's technical support team. For details, go to <http://support.microsoft.com/directory/overview.asp>.

***Error Message:** "STOP: 0x0000000a"

Translation: This message indicates that a hardware device in your computer has failed. This can be a memory module, the processor, or the motherboard, which is the board that holds your processor, memory, and physical links to other peripherals.

Solution: The only solution is to replace the faulty hardware. To determine which device has failed, you can download a diagnostic utility from the manufacturer of the memory module, processor, motherboard, or other device. This information should be available in the documentation for the hardware.

***Error Message:** "STOP: 0xC0000185, or STATUS_IO_DEVICE_ERROR: improper termination or defective cabling of SCSI-based devices, or two devices attempting to use the same IRQ."

Translation: This means Windows can't communicate with a SCSI (Small Computer System Interface) device, such as a CD-ROM drive. SCSI is a standard for parallel interfaces that lets users attach several devices to one port. The message can also mean the SCSI device is trying to use the same IRQ (Interrupt Request) line as another device. An IRQ line carries signals in the computer.

Solution: Open the computer's case and check if the SCSI card the device is connected to is properly connected to the motherboard. You should only do this, however, if you're familiar and comfortable with working on the inside of your system. If doing this doesn't solve the problem, check for IRQ conflicts using the System Information tool.

In WinNT, click the Start button, Programs, Administrative Tools, and Microsoft System Information. Click Hardware Resources and then Conflicts/Sharing. All conflicts should be highlighted. You may have to change the IRQ settings of one of the offending devices.

To do this in Win2000, click the Start button, Settings, Control Panel, and then double-click System. On the Systems Properties dialog, click Hardware Profiles, and then Device Manager. Select the appropriate device, right-click it, and click Properties. From the dialog that appears for the device, click the Resources tab. Click the Interrupt Request item and then Change. On the dialog that appears, select a New IRQ and click OK.

***Error Message:** "STOP: 0x0000000A"

Translation: This error can appear when Windows detects hardware perceived to be incompatible with the operating system.

Solution: If this error occurs while installing WinNT or Win2000, copy the folder 1386 from the Windows CD-ROM to your hard drive. Then, type `winnnt /b` at the command line and follow the instructions that appear. If your CD-ROM drive is able, boot your computer with the Win2000 installation CD and follow the instructions that appear. If this error occurs after installing WinNT or Win2000, you may need to remove any software or drivers you recently installed and disconnect any newly added hardware. You may also need to get the latest versions of the software or drivers from the manufacturer for the device to work properly with your version of Windows.

■ **Modem Mishaps.** For many users, the modem is their link to the outside world, making it possible to perform such tasks as logging on to the Internet and sending and receiving e-mail and faxes. Since Windows' early days, modems have also been causing headaches for users. The modem-related problems you might encounter include such things as Windows not detecting or recognizing your modem, and problems with drivers and modem communication ports.

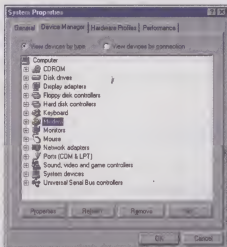
✱ **Error Message:** "Error 692: Hardware failure in port or attached device."

Translation: Windows can't communicate with or detect your modem. This can happen for a number of reasons, with the most common reason being your modem isn't supported by Windows or the modem driver isn't installed properly. If you use an external modem, the cable connecting it to your PC may be loose.

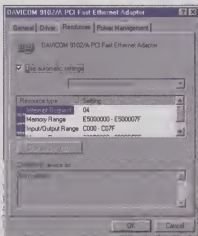
Solution: Check the Windows Hardware Compatibility List (<http://www.microsoft.com/hcl/default.asp>) to ensure Windows supports your modem. If the modem is on the list, try reinstalling the drivers. Also consider checking the modem manufacturer's Web site for updated drivers and/or an updated .INF file, which contains setup, configuration, and initialization information.

✱ **Error Message:** "Error 633. The modem is already in use or not configured for dialing out."

Translation: In Win2000, this error message appears when you have an external



The Device Manager in Windows 2000 is an excellent source of information for checking the status of hardware peripherals that are connected to your computer.



You can use the Resources tab in the Device Manager to check and change the IRQ settings of a peripheral. Doing this can help you eliminate conflicts between the peripherals connected to your system.

modem that isn't turned on or connected to your computer. Windows can't detect the modem because of this.

Solution: Turn the modem on and/or reconnect it to the computer, and then reboot the system. If you still receive the error message, click the Start button, Settings, Control Panel, and double-click System. On the System Properties dialog, click the Hardware Profiles tab and then Device Manager. Right-click Modems and click Scan For Hardware Changes. Windows will search for the modem. If it's connected properly, a message will display that the modem has been found. You should now be able to dial out.

✱ **Error Message:** "Modem is busy or not responding."

Translation: Windows can't dial out using the modem because another communications program, such as AOL, is already using the modem.

Solution: Simply close the other program or try dialing out later.

■ **Bad Drives.** Hard drives, floppy diskette drives, and disc drives, such as a CD-ROM or DVD-ROM drive, are some of the most important pieces of hardware on your computer because they let you save and transfer information. Each type has its own unique features that can cause its own unique problems.

✱ **Error Message:** "Invalid System Disk. Replace the disk, then press any key."

Translation: When a PC starts up, it checks to see if there is a floppy diskette in the diskette drive. If there is, the PC determines whether or not the diskette is a boot or emergency repair diskette by looking for operating system information on the diskette. The message above appears if the diskette isn't a boot or repair diskette.

Solution: Remove the diskette from the drive and press any key on the keyboard. If the diskette is one you got from a friend or co-worker, you should probably scan your computer and the diskette for viruses.

✱ **Error Message:** "Not ready reading drive XX"

Translation: This message appears when you try to access a diskette, CD-ROM, or DVD-ROM drive. XX in the message is the drive letter, such as D: "Not ready" means Windows isn't receiving data from a diskette or disc in the drive yet.

Solution: Physically check the drive to ensure that there is a diskette or disc inserted. This message usually appears if there is not one in the drive. If the drive does contain a diskette or disc, remove it and reinsert it. Then try to access the drive from Windows Explorer.

✱ **Error Message:** "Error: Unable to write to the destination disk."

Translation: Windows can't copy or move files from your hard drive to a floppy diskette. This happens if the diskette isn't formatted.

Solution: You can format the diskette by right-clicking the diskette drive in Windows

When errors occur, it can mean the processor is faulty or the software is interacting with your processor in unexpected ways.

Explorer and selecting Format from the context menu that appears.

*** Error Message:** "Error reading disk in drive XX: Please insert disk XX with serial number XX in drive X."

Translation: This error message appears if you try to remove a floppy diskette or CD from a drive while a program, such as Windows Explorer, is still reading from the diskette or disc.

Solution: You need to reinsert the diskette or CD in the drive and press ENTER.

*** Error Message:** "Serious Disk Error Writing Drive XX."

Translation: This error message can mean there's a severe problem with a hard drive, as represented by the XX: in this example. If you're lucky, Windows can repair the damage. If not, you may have to replace the affected hard drive and probably lose all the data on it.

Solution: If you can start Windows, launch the ScanDisk utility. In Win2000, click the Start button, Programs, System Tools, and ScanDisk. Select the affected drive from the list, click Thorough (which will check all the files and folders and scan the drive's surface), click Automatically Fix Errors, and click Start.

In WinNT, ScanDisk is integrated with Windows Explorer. To launch it, click the letter of the drive you want to check in Explorer and click Properties from the File menu. From the Tools tab, click the Check Now button in the Error-checking section. On the dialog box that appears, check the Scan For And Attempt Recovery Of Bad Sectors check box and click Start.

■ Snarling Scanners. Scanners have been among the most popular peripherals with users the past several years, partly because of their affordable price, but also because they provide a quick and simple way to digitize photos, text, and more. However, conflicts can arise when scanners interface with Windows. Below are examples.

*** Error Message:** "Could not complete your request because there is no scanner installed."

Translation: This message means Windows can't detect your scanner.

Solution: This may simply be a matter of your scanner not being powered on or properly connected to your PC. Check to see that the cable is tightly secured.

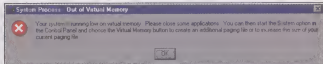
*** Error Message:** "Could not initialize TWAIN. Make sure that the Twain_32 file is installed in the Windows directory."

Translation: TWAIN (Technology Without An Interesting Name) is the standard interface scanner-related software uses to communicate with a scanner. Twain_32.dll is an important file in the scanning process and is usually located in your WINDOWS directory. This message indicates Windows is unable to locate it.

Solution: First, make sure the scanner and its accessories are compatible with your version of Windows by checking the documentation or the manufacturer's Web site. If so, then search your hard drive for the Twain_32.dll file by clicking the Start button, Find (or Search), and Files Or Folders. In the Named field, type twain_32.dll.

If the file is in a directory other than Windows, copy it to the Windows folder. If it's in the Windows folder, it may be corrupt. Try to reinstall your scanner software, which should put the Twain_32.dll file in the Windows folder. Before reinstalling the software, check that a data source file (used to specify the type of scanner being used) is in the Twain32 subfolder of the WINDOWS directory. Data source files have a .DS extension. If there are multiple data source files in the subfolder, delete all but the most current one to avoid any conflicts.

*** Error Message:** "Could not complete this acquisition because of a problem with this device."



The warning shown here can appear if your system is running low on virtual memory, which Windows uses to help store data. In some cases, this error message can mean there's a problem with your hard drive.

Translation: This message indicates that while the scanner was acquiring an image and transferring it to your scanner software, Windows lost the connection to your scanner.

Solution: Start by making sure the scanner isn't loose. This solution is easy to overlook but is often the solution.

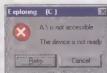
■ Processor Peccadilloes. The processor is the brain of your PC. It executes the various processes and instructions that Windows and its applications issue. When errors occur, it can mean the processor is faulty or the software is interacting with your processor in unexpected ways.

*** Error Message:** "Coprorocessor not available fault."

Translation: This message usually means the software you're trying to use requires a math coprocessor, which is an additional processor chip that helps the main processor perform various mathematical calculations without biting into the main processor's speed and efficiency.

Solution: Check the manual for your computer's motherboard. If your PC does indeed have a math coprocessor, there could be problems with it. You should be able to download a diagnostic tool from the manufacturer's Web site that can detect such problems. If your computer doesn't have a math coprocessor, you may have to upgrade your hardware to use the software.

*** Error Message:** "(0Bh): Not Present Fault."



If the error message above appears on your screen, it can mean there isn't a floppy diskette in the floppy diskette drive or there may be a problem with the actual drive.

Translation: Windows uses something known as virtual memory to process data faster and more efficiently. Virtual memory is space on the hard drive that Windows reserves for extra memory. As your software performs various tasks, Windows swaps data between physical memory (RAM) and virtual memory on the hard drive. The error above can occur when a program tries to access data in a block of virtual memory but can't find it in the location it's supposed to be in. The problem can result if a swap file is too small or is corrupt. It can also occur if there is a bad sector on the hard drive.

Solution: Try increasing the size of the swap file. For Win2000, click the Start button, Settings, Control Panel, and double-click System. On the System Properties dialog, click the Advanced Tab and then click Performance Options, and then click Virtual Memory. Click Let Me Specify My Own Virtual Memory Settings, and then set it to the maximum.

For WinNT, click the Start button, Settings, Control Panel, System, and on the Performance tab click the Change button. Alter the memory to the maximum allowable, but make sure it is less than the size of your hard drive, which is listed in the Hard Disk list on the dialog.

If the swap file is corrupt, reboot your computer. This usually rectifies the problem. If the problem persists, the hard drive might have a bad sector. Run ScanDisk and enable the Thorough and Fix Any Errors options. If ScanDisk detects a problem and can't fix it, you may have to replace your hard drive.

* Error Message: "General Protection Fault in module XX."

Translation: This message can appear if you run an application and its executable or .DLL file (represented by module XX above) tries to muscle in on memory another program is using or tries to interact with the processor in a way the processor doesn't like. The error is usually caused by software but can also indicate memory in your computer or video card is faulty.

Solution: Try to run a diagnostic utility on your video card. Such a utility is usually available for download from the card manufacturer's Web site. If the diagnostic finds no

errors, have your PC's memory checked by a certified technician.

* Error Message: "(10h): Coprocessor error Fault."

Translation: You may see this error if an application tries to perform a calculation by accessing a coprocessor, but the coprocessor can't perform it. The can mean the processor is faulty or overheated. The problem has also been known to occur when a user overlocks the processor. Overclocking involves changing a motherboard's settings to radically increase processor speed, but it also generates more heat.

Solution: Download and run a diagnostic tool from the processor's manufacturer. If no problems are reported, check the computer's fan. If it isn't humming or it isn't running smoothly and evenly, there are problems and you should consider replacing it. If you've overclocked the processor, you should reset it back to the

factory defaults.

■ **Device Manager Malfunctions.** Not all error messages in Win2000 will appear formatted nicely for you to decipher. Often, hints of potential hardware woes actually appear in the Device Manager, which provides the ability to view and modify properties of your PC's peripherals. When a device fails, Device Manager marks it with an exclamation point (!) inside a yellow circle. By double-clicking the device, you can view the associated errors. To access Device Manager, right-click My Computer on the Desktop, click Properties, and click the Device Manager tab.

The closest WinNT comes to providing a Device Manager is an Event Viewer, which logs hardware and operating system problems Windows encounters, along with the requisite error messages. Unfortunately, you can't fix problems using Event Viewer as with Device Manager.

* Error Message: "This device is not configured correctly."

Translation: This message indicates that even though a device is installed, Windows doesn't recognize it. This usually results if Windows can't find a needed driver.

Solution: Click the Update Driver button on the screen and follow the steps to install the driver. If this doesn't work, try to uninstall and then reinstall the device.

* Error Message: "The device cannot start."

Translation: Windows can't start the peripheral because of faulty drivers or a problem with the device.

Solution: Run a diagnostic program on the peripheral to find any problems with the hardware. Such a tool should be available from the manufacturer's Web site. If the diagnostic doesn't find problems, check the manufacturer's Web site for updated drivers and download and install them.

* Error Message: "Windows is removing this device."

Translation: This means Windows is trying to uninstall a peripheral, either because there is a corrupt driver or there's a problem with the Windows Registry, which is a database of hardware and software configuration information.

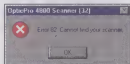
Solution: Restart your computer. If the problem continues, the entry for a device in the Registry may be corrupt. You can try editing the Registry or uninstalling and reinstalling the device. However, only experienced users should try to edit the Registry. If you make a mistake, you could seriously damage Windows.

* Error Message: "Windows cannot determine the settings for this device. Consult the documentation that came with this device and use the Resource tab to set the configuration."

Translation: Some older hardware doesn't support Plug and Play, which lets a computer automatically detect and configure a peripheral with little user interaction. When you use hardware that isn't Plug-and-Play compatible with Win2000, you must manually configure the device.

Solution: On the Device Manager Resources tab, right-click the device and click Properties. You may also have to reinstall the device's drivers. For specific instructions on how to configure the device, consult the documentation that ships with the device or check the manufacturer's Web site.

■ **The Hardware Hit List.** Nearly any device can cause problems with Windows. Below are a few error messages you may



The message above, or one similar to it, may indicate that Windows is having difficulty detecting a scanner connected to your system. The problem may be something as simple as a loose cord or the proper drivers aren't installed.

Despite the frustration and annoyance error messages can generate, try to ultimately remember that a Windows error message appears on your screen as a friend.

encounter with devices as seemingly innocent as keyboards, printers, and DVD-ROM drives.

*** Error Message:** "The device driver for the 'PC/AT Enhanced PS/2 Keyboard (101/102-Key)' device is preventing the machine from entering hibernation. Please close all applications and try again. If the problem persists, you may need to update this driver."

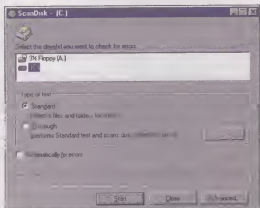
Translation: Win2000 has a feature called Hibernate And Standby Mode, which essentially puts your computer to sleep by temporarily suspending various operations, including communications and video display. The message indicates the keyboard's device driver isn't letting Windows enter the hibernation mode.

Solution: Download an updated driver from the keyboard manufacturer's Web site. If it doesn't work or there isn't an updated driver, you may have to buy a keyboard compatible with Win2000 or disable the Hibernate And Standby Mode.

*** Error Message:** "While setting up DVD-video playback, it was found that XX cannot be shown on the computer monitor because of one of the following reasons: Low video memory. Please try using lower display resolution and/or colors. The display adapter is incompatible with the DVD decoder. Please try to obtain a display driver update."

Translation: Win2000 can't play back video from a DVD because the video card installed either doesn't have enough onboard memory or it doesn't work with the DVD software you're using.

Solution: Short of buying a new video card, you can try to decrease the display resolution and the number of colors used by your monitor. To do this, right-click a blank area on the Desktop, click Properties, and then Settings. Select a lower number than the one selected in the Colors list, but don't go below 256. Click the Screen Area slider and move it to the left. You may have to experiment with screen sizes, but 720 x 576 pixels



If an error message appears that indicates there is a problem with one of your computer's drives, try running Windows ScanDisk utility to check the hard drive for problems and to possibly rectify the error.

should work. Click Apply. If this doesn't work, visit the DVD encoder manufacturer's Web site and check if the encoder supports your video card. If it doesn't, consider finding a DVD encoder that does.

If neither of these solutions remedies the problem, you will probably have to upgrade your video card to a model that has 8MB or more of memory and one that your DVD encoder will support.

*** Error Message:** "A port with that name already exists. Choose another port name."

Translation: This message can appear if you installed a printer previously using the Add Printer Wizard and then cancelled the installation before it was complete or the installation failed. Even though the printer didn't install, Windows assigned it to the port you're trying to now access.

Solution: Click the Start button, Settings, Control Panel, and double-click Printers. From the File menu, click Server Properties. Highlight the port you want to delete, click Delete Port, and then click OK. You should be able to install your new printer now.

■ Outlets Of Online Information. It would be a nearly impossible task to try and cover on these pages all the error messages

you could possibly face using either WinNT or Win2000. Luckily, there are several other excellent sources of information concerning these operating systems available to you on the Web. A logical starting place is the Microsoft Support Site (<http://support.microsoft.com>), which contains a list of current problems users have encountered with Microsoft's products. It also contains a searchable knowledgebase filled with solutions to thousands of problems.

Another site worth checking out is the Microsoft Diagnostics Web site (<http://dsg.rte.microsoft.com>). This site is essentially an online troubleshooting and diagnostic wizard that guides you through a problem with step-by-step questions and answers. If you encounter an error message, you can go here to possibly learn what happened and what you should do.

A non-Microsoft resource that is worth looking into is the Windows Error Messages page at WindowsTrouble.com (<http://www.windowstrouble.com/emsg>). At this site, you simply type terms into a search field. The site then presents you with a list of corresponding error messages. If you click on a message, you should receive an article from Microsoft's knowledgebase that provides details about the error message. The major advantages of using this site are that it's typically faster than using the Microsoft support site and it usually does a better job of narrowing down your searches.

Despite the frustration and annoyance error messages can generate, try to ultimately remember that a Windows error message appears on your screen as a friend. Sure, the messages may speak a language that is difficult to understand, but with a little knowledge and patience, you should be able to get to the gist of what the message is trying to tell you. In addition, you'll get the satisfaction of being able to solve problems you encounter by yourself. [E]

by Scott Nesbitt

Windows NT/2000 Software

Unpucker Problematic Software When It Sours On You



The relationship between Windows and software can be a lot like that of a married couple. For the most part, the husband and wife live together in a state of harmonious bliss, but when a blow-up occurs, the relationship screeches to a temporary halt and sparks fly. When Windows and software have a conflict, it's error messages that get tossed around.

While Windows' error messages aren't exactly spiteful or full of venom, they can be downright difficult to understand. Unless you're a long-time Windows user or have an in-depth knowledge of Windows' inner workings, you'll find yourself scratching your head more often than not when error messages confront you.

On the following pages are examples of common error messages related to software that you might encounter if you use the

Windows NT or Windows 2000 OSes (operating systems). In addition, you'll find explanations about what each error message means, and if possible, how you can remedy the problem surrounding the error message and prevent it from happening in the future. Unless otherwise specified, the error messages listed can occur with either WinNT or Win2000.

■ **Software Sorrows.** Installing software on a Windows machine is usually a trivial act. In most cases, you only need to make sure you have enough memory and hard drive space available for the application and then follow the setup instructions. However, sometimes things can go spectacularly wrong. Below are examples.

✱ **Error Message:** "An unknown error has occurred during installation"

Translation: This message indicates the installation process has stopped because the application's setup program could not perform a task that is crucial for the proper installation of the program. Often, this can mean antivirus software is running in the background. Most installation programs need to add information to the Windows Registry, which is a database that contains vital software and hardware configuration information about your computer. An antivirus application running in the background may not allow this to occur.

Solution: Shut down or suspend the antivirus software running. You can typically do this in two ways. First, if there is an icon for the program in the system tray on the bottom-right corner of the Taskbar, right-click it and select Exit from the menu that appears. Second, right-click the Taskbar and select Task Manager from the menu that appears. Click the antivirus program to select it and click End Task. Once the antivirus software is shut down, try to run the installation program again.

✱ **Error Message:** "Error Downloading Component. Error Installing Dependency"

Translation: This message can appear when you try to download a component from the Microsoft Windows Update site (<http://windowsupdate.microsoft.com>) using Internet Explorer. This error occurs for two reasons. First, IE can't download or finish downloading one of the updates you select. Second, the download may complete successfully, but Windows is unable to install the component.

Solution: You can try to overcome this error by first clearing your browser's cache, which is a memory location that stores files for quick retrieval later. If you use IE5.0 or higher, you can do this by clicking the Start button, Settings, Control Panel, and then double-clicking Internet Options. From the dialog that appears, click the Delete Files button. If you use IE4.0, start the browser and click View and then Internet Options. Click the Delete Files button. Now try the download again.

If this doesn't work, you may have to enable ActiveX controls, which are software modules that enable a program to add functionality to it by incorporating components that blend in and appear as normal parts of a program. Because ActiveX controls are executable software, IE is wary of letting you download them, so you must change your security settings.

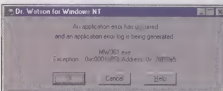
from the Start Menu, a Desktop shortcut, or by double-clicking a document in Windows Explorer. This only happens with programs that are installed in the Program Files folder, which is where many applications are installed by default on your hard drive. This error occurs if you have another folder named Program on the same drive as the Program Files folder, which can confuse some applications.

Solution: Try to rename the Program folder. If this doesn't fix the problem, download the latest WinNT or Win2000 service pack.

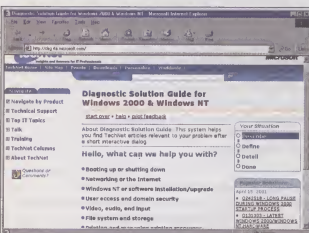
* Error Message: "WinExec returned with an error code 2"

Translation: This is a WinNT error that occurs when WinNT's 16-bit subsystem (a set of files that runs older, pre-WinNT software) can't find the file above to load in memory. More often than not, there's a 16-bit program in the Startup group in the Start Menu that isn't launching when Windows boots.

Solution: Click the Start button, Programs, and then Startup. Launch each program in the group. When the error message appears, you have your culprit. Remove this offending program from the Startup group by right-clicking



The error messages that Dr. Watson produces aren't exactly user friendly, but they can be good guides for tracking down the source of an error and eventually correcting it.



If you're having trouble deciphering what an error message means to try to correct it, Microsoft's diagnostic solution guide Web site is a great resource for remedying problems associated with the Windows NT and Windows 2000 operating systems.

the Start button, clicking Open, and double-clicking Programs. Then open the Startup folder, right-click the problem program's icon, and click Delete.

* Error Message: "Your system is running low on virtual memory. Please close some applications. You can then start the System option in the Control Panel and choose the Virtual Memory button to create an additional paging file or to increase the size of your current paging file."

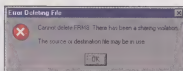
Translation: Windows uses virtual memory to process data faster and more efficiently. Virtual memory is space on the hard drive that Windows reserves as extra memory. The key to doing this is the use of a paging file, which is used to move program or data segments (or pages) in and out of memory. Paging is the primary way of using virtual memory, but going to the well too often can cause your PC to run low on virtual memory.

Solution: Close the documents you're working on and shut down all running programs. Then, increase the size of the paging file. In Win2000, do this by clicking the Start button, Settings, Control Panel, and double-clicking System. From the System Properties dialog, click the Performance tab and then click Virtual Memory. Click Let Me Specify My Own Virtual Memory Settings and then set it to the maximum. In WinNT, click the Start button, Settings, Control Panel, and double-click

System. Click the Performance tab and then click the Change button. Set the maximum amount of memory allowable. The maximum value should be less than the size of your hard drive, which is listed in the Hard Disk list on the dialog.

* Error Message: "XX — An error has occurred in your program. To keep working anyway, click Ignore and save your work to a new file. To quit this program, click Close. You will lose information you entered since your last save."

Translation: The program (XX in this error message) has encountered a conflict with other software Windows is running. This particular error message often pops up if you use damaged or older drivers for a peripheral, usually your video card. Keep in mind, when you click



The error message above can appear when you try to delete a file that is still being used by another application or is being used by Windows. To solve this, close the application first and then try to delete the file.

Ignore on the error message, the application will often hang or freeze.

Solution: Visit the Web site of the video card's manufacturer and download the latest drivers for your card. If this doesn't solve the problem, try downloading and installing updated drivers for your other devices, such as the CD-ROM or DVD-ROM drives or the scanner, printer, or modem. If the problem persists, uninstall and reinstall the program that causes the error to appear.

■ **The Trouble With DLLs.** DLLs (dynamic-link library) are files that give programs extra functionality. Windows loads DLLs into memory when a program starts up, which can cause trouble. Often, programs and DLLs try to grab the same bit of memory, which can crash your system. In addition, DLLs can be missing or out of date.

* Error Message: "The dynamic link library WININET.DLL could not be found in the specified path."

Translation: This file is usually located in the System32 subfolder of the Windows directory (C:\WINNT\System32). Various Internet-enabled Windows applications communicate with Web browsers with the help of this file. If the file isn't in this subfolder, the application can't work with the browser. This error sometimes occurs when a program you install overwrites your copy of Wininet.dll with an older version of the file.

Solution: Search for Wininet.dll by clicking the Start button, Find (or Search), and Files Or Folders. In the dialog that appears, type wininet.dll in the name field and click Find (or Search) Now. If Windows finds the file in a folder other than the System32 folder, copy the file to this folder. If Windows can't find the file or you think that you may in fact have an older version, download it at WinDrivers.com (<http://www.windrivers.com>).

Believe it or not, something as innocent as a word processor document or spreadsheet can cause a host of error messages to appear.

***Error Message:** "This program has performed an illegal operation and will be shut down. If the problem persists, contact the program vendor. <Program> Caused an Invalid Page Fault in Module XX"

Translation: This message indicates the application you're using (represented by <Program> in the error message) is trying to access memory being used by a file (XX in the message). The file is usually a .DLL, such as Msacm32.dll. Typically, the program you're using will crash.

Solution: The easiest way to get around this problem is to shut down the other application. If you have several programs running at once, you'll have to experiment by exiting one at a time and going through the steps that led up to the crash.

***Error Message:** "The version of XX is older than the currently installed version."

Translation: Many Windows programs install DLLs as part of their setup routine. Sometimes, when an installation program tries to copy a specific .DLL (represented by XX in this error message) to your hard drive, the program discovers you have a newer version of the file already installed.

Solution: Click No on the dialog box that contains the error message. We recommend you do this whenever you encounter this error message, because overwriting a .DLL with an older version can cause problems with other software that also uses that particular .DLL.

***Error Message:** "Cannot overwrite XX: The specified file is being used by Windows"

Translation: Sometimes it's necessary to replace a .DLL by copying a new version over an older one. If Windows or an application is using the .DLL, you won't be allowed to overwrite it.

Solution: Copy the newer .DLL to the Temp folder, usually C:\TEMP. Then, rename the .DLL that's located in the Windows System32 folder. Then click the Start button, Programs, and Command Prompt. At the prompt, change to the directory C:\TEMP by typing `cd \temp`.

Copy the new .DLL version into the Windows System32 folder by typing `copy <dll file> <windows>\system32` with `<dll file>` being the appropriate .DLL and `<windows>` being the name of your Windows folder. Close the Command Prompt and reboot your PC.

■ Working with Files. Believe it or not, something as innocent as a word processor document or spreadsheet can cause a host of error messages to appear. Usually, the errors aren't related to the files but actually the programs the files work with. Below are some error messages you may encounter.

***Error Message:** "The file cannot open"

Translation: This error message means Windows doesn't recognize the program the file is associated with. Windows associates certain types of files with programs to make it apparent what program created the files and what program the files can be edited with.

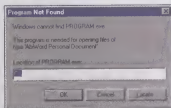
For example, files with a .DOC extension can be opened and edited with Microsoft Word. This association makes it possible to simply double-click a file in Windows Explorer to have it open in the associated program. This particular error message can crop up when a program isn't properly registered with Windows or if it isn't installed correctly.

Solution: The fastest way to remedy this problem is to reinstall the program with which the file is associated. Uninstall the program first by clicking the Start button, Settings, Control Panel, and double-clicking Add/Remove Programs. Things may be more complicated if you use Microsoft Office. If you use Office 97, run the installation program by clicking the Start button and then Run. In the Open: field, type `x:\setup.exe /y /t` with x being the letter of your CD-ROM drive. The y and t in this command will restore the Registry settings for Office. Unfortunately, the Office 2000 installation program doesn't support these switches. You

have to run the Office Profile Wizard. First, you must download it from <http://www.microsoft.com/office/ork/2000/download/orktools.exe>. Then install the software by double-clicking the file `Orktools.exe` and follow the instructions. Once it is installed, click the Start button, Programs, Microsoft Office Tools, Microsoft Office 2000 Resource Kit Tools, and click Profile Wizard. Click Next, select Reset To Defaults Before Restoring Settings, and click Finish.

***Error Message:** "Program Not Found. Windows cannot find XX. This program is needed for opening files of type '<file type>.'"

Translation: If you see this error message appear, the type of file (denoted by <file type> in the error message) either isn't associated with the program (represented by XX) or the program is



The error message shown here can appear if Windows can't find the program needed to open a file. You can use this dialog to find the program and open the file.

either damaged or not installed on your system at all.

Solution: Use the Find or Search utility to search for the program. If Windows finds it, try launching the application. If it doesn't start, uninstall and reinstall the program. This should create an association.

You can also create an association between the file and program XX or another program in Windows Explorer. Find the file in Explorer you want to open. Right-click it and click Open With. This opens a window that contains a list of programs installed on your computer. Choose a program from the list you want to open the file with. If you want the program to open files of that type in the future, select Always Use This Program To Open This Type Of File.

***Error Message:** "Cannot delete XX. There has been a sharing violation. The source or destination file may be in use."

Translation: When you try to delete a file (XX in the message) in Windows Explorer, this error message can appear for two reasons. The first reason is if the file is open in a running application. The second reason is if the file is in the TEMP directory and has an extension like .TMP or has ~WRD in the file name. This is a temporary file that a running application is using.

Solution: Close the file in the application, and then delete it. Unless the system crashes, temporary files are automatically deleted when you close the working file.

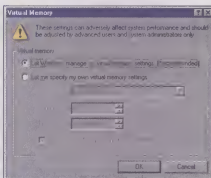
■ **The Good Doctor.** There are probably few users of WinNT and Win2000 who haven't met Dr. Watson, a utility that detects and diagnoses program errors and then logs the resulting diagnostic information. When applications running under WinNT and Win2000 hit a snag, Dr. Watson makes a house call by stopping the program that encountered a problem and writing any errors to a log file. Dr. Watson is a competent specialist, but the information he provides can be vague at best. An example of Dr. Watson's work can look something like this:

"An application error has occurred and an application error log is being generated.

XX Exception(x), Address(x)"

This isn't exactly the epitome of user friendliness. However, the message does contain information that can help you determine the cause of the error. In this example, XX is the name of a program's executable file, such as Excel.exe. Exception(x), Address(x) is the memory address where the error message has occurred. If you come across a Dr. Watson error, you should write down the error word by word. You can also take a screenshot of the Dr. Watson error to reference to later when you begin troubleshooting the problem or when you seek assistance.

Below are samples of Dr. Watson errors you may encounter. Note that the Address in the error messages may differ from the ones in the error you receive.



If the programs on your system are gobbling up virtual memory, you can change the setting in the dialog box above to prevent memory-related error messages from appearing.

*** Error Message:** "XX Exception: hardcoded-breakpoint (0x80000003), Address: 0x77f76274"

Translation: This can occur when a program tries to access a block of memory but the OS returns a block of memory that isn't ready to receive data.

Solution: Try downloading the latest service pack for your OS from Microsoft's support site.

*** Error Message:** "Explorer.exe Exception: access violation (0xc0000005)"

Translation: This is a WinNT error that occurs when you have WinNT and another Windows OS installed on the same computer. The error indicates that a Win 9x (Windows 95/98) version of Windows Explorer has made its way into the WinNT folder.

Solution: Open the Command Prompt (click Start, Programs, and Command Prompt). Change to the directory C:\WINNT by typing `cd \winnt`. Rename the file Explorer.exe by typing `ren explorer.exe explorer.old`. Insert the WinNT installation CD and copy Explorer.ex... from the I386 folder by typing `copy x:\i386\explorer.ex... c:\winnt` where x is the letter of your CD-ROM drive. Then, type `expand explorer.ex... explorer.exe` to decompress the file. Close the Command Prompt and restart your PC.

*** Error Message:** "Iexplorer.exe Exception: access violation (0xc0000005), Address: 0x00000000"

Translation: In IE, you can add a Web site to your Favorites by dragging and dropping the IE icon from the Address field where the URL (uniform resource locator) is listed to the Favorites menu. The error above can occur when this is attempted.

Solution: Add the Web site to your Favorites list by clicking Favorites and then selecting Add To Favorites. If the problem persists, try upgrading to a newer version of the browser.

*** Error Message:** "MAPISP32.exe Exception: access violation (0xc0000005), Address: 0x00000000"

Translation: This error message can mean your Windows workstation has lost its RAS (remote access service) connection to the mail server when using Windows Messaging, which is the default WinNT and Win2000 mail service. If this happens, you won't be able to send new mail until you close and log off all programs related to mail, such as Microsoft Outlook.

Solution: Click the Start button, point to Settings, click Control Panel, and double-click Network. Select the Services tab and click Add. Click the Remote Access Service and click OK. In Win2000, double-click Administrative Tools and open the Services icon. You'll also have to configure the port for use with RAS. Because this information varies from network to network, you should contact your network administrator for further details.

■ **Sending Out An SOS.** It would be nearly impossible to cover every possible error message you might encounter in WinNT and Win2000 in a single article. Luckily, there are several other excellent sources of information. Start at Microsoft's support site (<http://support.microsoft.com>) to get a list of current user problems and use a searchable knowledgebase of solutions.

Another site that's loaded with helpful information is Microsoft's diagnostics Web site, which you'll find by pointing your browser to <http://dsg.rte.microsoft.com>. It serves as an online troubleshooting and diagnostic wizard to guide you through known WinNT and Win2000 problems.

A non-Microsoft resource worth checking out is The Trouble With Windows Error Messages page at [WindowsTrouble.com](http://www.windowstrouble.com/emsg) (<http://www.windowstrouble.com/emsg>). At this site, you can simply type a search term into a field and get a list of related error messages. After clicking a message, you should be provided an article from Microsoft's online knowledgebase detailing the problem.

Overall, Windows error messages aren't as intimidating as they seem. They are difficult to decipher but not impossible to figure out. Once you get the hang of troubleshooting software errors, you'll find working through the problem isn't as difficult as you might have thought. [E]

by Scott Nesbitt

EVER WISH YOU HAD SOMEONE LIKE HIM
AROUND WHENEVER YOU NEEDED HELP?

WISH GRANTED.



DID I MISS MY TURN? WAS THAT A PIECE OF METAL I JUST DROVE OVER? I CAN'T BELIEVE SOMEONE STOLE MY CAR. WHEN YOU FIND YOURSELF IN PERIL, JUST PRESS THE ONSTAR BUTTON IN YOUR CAR. STRANDED? WE'LL LOCATE YOU BY SATELLITE AND SEND FOR A TOW TRUCK. CAR STOLEN? WE'LL TRACK IT AND NOTIFY THE POLICE. LOST? WE'LL GUIDE YOU. IT'S LIKE HAVING YOUR OWN PERSONAL SUPERHERO. TO FIND OUT HOW TO GET ONSTAR ON YOUR NEXT VEHICLE, SEE YOUR CHEVROLET, PONTIAC, GMC, OLDSMOBILE, BUICK, CADILLAC, OR SAAB DEALER, CALL 1-888-ONSTAR-7, OR VISIT WWW.ONSTAR.COM.



HOW CAN WE HELP YOU?

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Windows NT/2000 Networking

Lifejackets To Strap On When Your Network Starts To Sink



Troubleshooting a network is an accepted part of everyday life for most network administrators. Seasoned network professionals can often take a quick look at an error message and detect the problem right away or at least point the user in the right direction to correct the problem. To help overcome error messages you may encounter using Windows NT and Windows 2000, we have compiled a list of messages that relate to logging on, starting up, and accessing network resources, such as shared hard drives or printers. The majority of these errors relate to both WinNT and Win2000, but if an error relates to just one of the OSes (operating systems), we've noted it.

■ **Logon Errors.** Errors that display while you attempt to log on to Windows normally indicate something is wrong with your logon credentials. This can be an invalid username/password or your account may be temporarily suspended or disabled. If your password is expired or is about to expire, Windows will warn you and let you to change it when you log on.

users. It allows network administrators to centrally manage network security, including usernames and passwords. Without a domain controller, user accounts are stored and managed locally on each Windows network computer.

Solution: If you're not logging onto a Windows domain and receive this message, there's a problem with how you're entering your username or password. WinNT and Win2000 are case sensitive; so make sure to spell the username and password correctly with the proper case. If you still have difficulty logging on, log on using an account that is a member of the Administrators group. After you log on as an administrator on a Win2000 system, click the Start button, Programs, Administrative Tools, and Computer Management to launch the Computer Management console. Use the console to check the user properties you're having trouble with. Expand the Local Users And Groups section by clicking the plus sign (+) to the left of the entry and select Users to display the user list for your computer. Make sure the username you're having trouble with is listed

and spelled correctly. If the user doesn't exist, create a new user by selecting Action and then New User. Fill in the username and password and click OK. If a username is spelled wrong, right-click it, click Rename, and name it correctly. To change a password, right-click the username and select Set Password.

To check logon names in WinNT, click the Start button, Program, Administrative Tools, and User Manager For Domains to display a current list of usernames on your system. If the user you are trying to log on as isn't listed, select User and then New User from the menu bar and enter a username and password to create the user. If the username is misspelled, select the user, click User and then Rename, and type the correct username. You can change an incorrect password by double-clicking the username and entering the new password in the Password field. Confirm the password in the designated field and click OK. Try logging off and back on using your correct user account.

***Error Message:** "The system could not log you on. Make sure your Username and domain are correct, then type your password again. Letters in passwords must be typed using the correct case. Make sure that Caps Lock is not accidentally on."

Translation: This error means that Windows can't authenticate you to your local computer or domain controller, which prevents you from logging on to your system. A domain controller is a Windows server computer commonly found in larger networks with 10 or more

***Error Message:** "Your password will expire in X days. Do you want to change it now?" or "Your password has expired and must be changed."

Translation: This message is fairly self-explanatory. Your password is going to either expire in the amount of days indicated by X in the message, or it has already expired. Some network administrators require that you to change your password at various intervals, such as once a month and more frequently, so other users in your office don't acquire and use your password.

Solution: Answer Yes, which will open the Change Password window. If your password has already expired, click OK to display the Change Password window. Enter the new password in the New Password field, and verify the password by entering it again in the Confirm Password field. When you're finished, click OK to save the new password and log on to Windows.

***Error Message:** "Your account has been disabled. Please see your system administrator."

Translation: Even though WinNT, Win2000, or your domain controller accepts your username and password, Windows or the network domain controller isn't letting you log on because your user account is disabled.

Solution: If you log on to a domain, you need a network administrator's assistance to

correct the problem. If you're not part of a Windows domain and you see this error, you need to log on using the Administrator account or an account that's part of the Administrators group to enable your user account. Once you log on as a system administrator, open the Computer Management console if you use Win2000 by clicking the Start button, Programs, Administrative Tools, and Computer Management. Click the plus (+) sign in front of Local Users And Groups to expand the view and select Users. If you are running WinNT, click the Start button, Programs, Administrative Tools, and User Manager For Domains to view the users of your system. Using either of these administrative tools, double-click the username of the disabled account to view the user properties. Remove the check mark in front of Account Disabled. Click OK to save the changes to the user account.

***Error Message:** "Unable to log you on because your account has been locked out, please contact your system administrator."

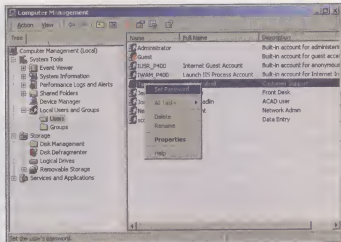
Translation: This error indicates that your user account is temporarily suspended from logging on to Win2000 or your domain because too many invalid logons have been attempted. Invalid logons occur when you repeatedly use an incorrect password with a valid username.

Solution: If you normally log on to a domain, contact your system administrator to correct the problem or wait for the timeout period (which is determined by the network administrator) to expire before you attempt another logon. If you're not connected to a Windows domain, you can unlock a user account by logging on to your system as an administrator and removing the lock. Log on as an administrator and click the Start button, Programs, Administrative Tools, and Computer Management if you run Win2000. Click the plus (+) sign in front of Local Users And Groups to open the user list and select Users. For WinNT, open User Manager For Domains by clicking the Start button, Programs, Administrative Tools,

and User Manager For Domains. Using the appropriate management program for your system, double-click the account to unlock and remove the check mark to the left of Account Locked Out. You can try to log on again after removing the check mark.

■ Startup Errors.

Errors often display at startup when Windows detects networking problems, such as a duplicate computer name or an IP (Internet Protocol) address conflicting with another network device. These types of messages display after a successful logon and let you know of any problems Windows encounters that might interfere with normal network operations. After logon, Windows also notifies you if preset network resources associated with local drive letters can't be found.



If you receive an error message that indicates you are unable to log on to the network, you can use the Computer Management console to establish a password and username so you can log on.

by placing a check mark in the box after the error message labeled "Do Not Try To Restore The Connection In The Future." Click OK, and your computer won't attempt a network connection again. If you need to access the network resource, click OK to bypass the error and check your network connection by accessing a different network resource. If you can access another shared resource on the network, your computer is functioning properly. Check the computer you are trying to connect to and make sure it's powered on and properly connected to the network.

***Error Message:**

"An error occurred while reconnecting to X: to \\servername\\resource Microsoft Windows Network: The network path was not found."

Translation: This message signifies that Windows can't associate a local drive letter, which is represented by X above, with a resource on the network because the network resource can't be found. The message normally displays when the

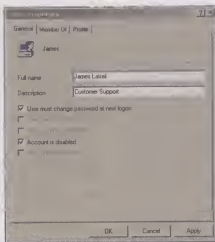
computer you are connecting to is either removed from the network or is powered off.

Solution: If you're trying to prevent Windows from restoring a connection to a removed network computer or you don't need to make a connection any longer, you can prevent Windows from attempting a connection

***Error Message:** "Enter Network Password. Incorrect password or unknown username for \\servername\\resource"

Translation: This error means Windows is trying to restore a network connection to a shared resource using your logon username and password, but the computer you're trying to connect to can't validate them.

Solution: Change your username and password on the computer you're trying to connect to so they are identical to the username and password you use to log on to your computer. To change your password on another Win2000 computer, open the Computer Management console. Expand Local Users And Groups by clicking the plus (+) sign and select Users. Right-click your username and select Set Password. Enter your network password and click OK. If the computer you are attempting to connect to runs WinNT, log on at that computer as a system administrator by clicking the Start button,



If your user account becomes disabled, you can use an administrator's account or another user's account to try to enable yours so you can log on to the network.

Problems you may encounter *when accessing network resources usually occur when powering off or disconnecting a computer from the network.*

Programs, Administrative Tools, and User Manager For Domains. You can change a user's password by double-clicking the user and entering the new password in the Password and Confirm Password fields and clicking OK to save your changes.

* **Error Message:** "Query result parsing failure"

Translation: This message is specific to Win2000 and means Windows can't interpret the network protocol bindings that let your computer communicate with the network. Bindings tell Windows what network protocols to use with which network adapters. This message normally occurs after installing a new network adapter and is caused by a problem with the installation software or device driver the manufacturer of the new network card provides.

Solution: The first step to correcting this problem is resetting the protocol bindings on your network adapter(s). To do this, open My Computer by double-clicking it on the Windows Desktop. Double-click Network And Dial-up Connections then right-click the icon that represents your network adapter. Select Properties to display the current protocols, services, and network client software. To reset the binding information, remove each protocol's binding to the network adapter by removing the check mark to the left of the listed protocol. When you finish, click OK to return to the Network And Dial-Up connections Window. Again, right-click the network adapter and select Properties. Place a check mark to the left of the protocols your computer needs and click OK. This should reset your binding information. Reboot your computer. If the message persists, contact the manufacturer of your new network adapter to resolve the issue.

* **Error Message:** "The system has detected an IP address conflict with another system on the network. The local interface has been disabled. More details are available in the system event log. Consult your network administrator to resolve the conflict."



The error message shown here may occur if Windows is unable to find a resource that you're trying to map a drive letter to. This usually occurs when another computer is already using the drive letter.

Translation: This error message may occur while you register your computer on the computers or network devices. The easiest method is changing the IP address on your local computer. For Win2000, correct the problem by right-clicking My Network Places on the Desktop and selecting Properties to display the Network And Dial-up Connections window. Next, double-click the network connection and click the Properties button. With the Connection Properties window open, double-click Internet Protocol (TCP/IP [Transmission Control Protocol/Internet Protocol]) to edit your IP configuration. For WinNT, right-click Network Neighborhood and select Properties. Select the Protocols tab and double-click on the TCP/IP entry.

Solution: Change the IP address of one of the computers or network devices. The easiest method is changing the IP address on your local computer. For Win2000, correct the problem by right-clicking My Network Places on the Desktop and selecting Properties to display the Network And Dial-up Connections window. Next, double-click the network connection and click the Properties button. With the Connection Properties window open, double-click Internet Protocol (TCP/IP [Transmission Control Protocol/Internet Protocol]) to edit your IP configuration. For WinNT, right-click Network Neighborhood and select Properties. Select the Protocols tab and double-click on the TCP/IP entry.

The IP address will be displayed as four sets of numbers separated by periods, such as 1234.1234.1234.1234. Change the number to the far right to a different number. Try increasing the number by one increment to see if the address is available. After making your changes, click OK and reboot your computer. If the error appears again at startup, repeat the steps until you find a free IP address.

* **Error Message:** "A duplicate name exists on the network."

Translation: This error can happen if Windows finds another computer on the network with the same name as yours. This message is fairly common when duplicating hard

drives in computers using a cloning utility or when a new computer is set up on the network and given the name of an existing computer by mistake.

Solution: Change your computer name to correct the problem. If you run Win2000, right-click My Computer and select Properties from the context menu. With the System Properties window displayed, select the Network Identification tab and click the Properties button to open the Identification Changes window. Enter a new computer name in the Computer Name field and click OK.

If you run WinNT, right-click the Network Neighborhood icon and select Properties from the menu that appears. When the Network properties window opens, click the Change button. Enter the new computer name in the designated field and click OK. When you're finished, click OK and OK again to exit the properties window. Restart your computer for the name change to take effect.

■ **Check Your Sources.** Problems you may encounter when accessing network resources usually occur when powering off or disconnecting a computer from the network. The error messages and solutions in this section should help you work past these kind of basic connectivity issues.

* **Error Message:** "An error occurred while reconnecting X: to \\computername\resource. Microsoft Network: The local device name is already in use. This connection has not been restored." (for Win2000) or "You do not have access to the folder 'X:\'. See your administrator for access to this folder." (for Win2000) or "X:\ is not accessible. The network path was not found." (for WinNT)

Translation: These messages mean Windows can't find the resource you're trying to connect to on the network. The errors normally occur when you associate, or map, a local drive letter, represented by X:\, to a shared resource on another computer.

Solution: Verify that your connection to the network is functioning properly. Do this by accessing a network resource that's located on a

General Internet Error Messages

Going Online Presents Its Own Set Of Mysteries

Ah, computer error messages. No matter how new your system, what tasks you perform on your PC, or how experienced a user you are, you're bound to run into them sooner or later, especially if you spend time on the Internet. Online, there are dozens you might encounter, from "403 Forbidden" to "Failed DNS lookup" to "Helper application not found."

And many times, there's nothing you can do about it immediately. That's right, little or nothing. That's because on the Internet, many of the error messages that pop up on your screen do so because there's a problem with the Web site or the remote service (e-mail, Usenet newsgroup, or FTP [File Transfer Protocol] site) that you're attempting to contact. Sometimes your only option is to wait and hope the remote location sorts its own problems out, and then try your request again later.

But before you throw your hands up in frustration, look at our list of some of the most common Internet error messages. We'll explain what the messages mean and what you can do about them. The topics included here are not program-specific, so regardless of whether you use Netscape or another Web browser, Microsoft Outlook Express or a different e-mail program, we'll present you with ways of dealing with those pesky error messages.

■ **Going By The Numbers.** Remote Web servers generate a whole category of Internet error messages. They may appear intimidating at first, but they're really a polite way the server has of saying: "Hey, you tried to access a page on our site but we can't provide that page for you." It may be that the page no longer exists, or you don't have the proper permission, or a number of other reasons. These messages typically start with a three-digit number, followed by a word or two describing the error.

✱ **Error Message:** "404 Not Found" or "File Not Found"



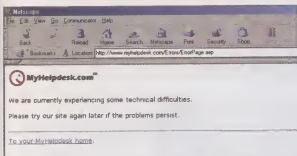
Translation: The site you're trying to reach can't find the HTML (Hypertext Markup Language) document, or page, at the URL (uniform resource locator, a Web address) you input. Typically, the main part of the site is active, but the connecting page is not valid. You might have followed an old link or mistyped the URL, or perhaps the Webmaster pulled that page from the site and forgot to update the external link. This is known as "link rot."

Solution: There are several ways to remedy a "404 Not Found" message. You can recheck the URL you entered for typos. More commonly, however, you'll find the site was redesigned and the page no longer exists at

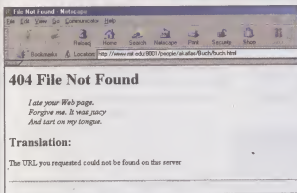
that location but is available elsewhere on the Web site.

One of the best ways to locate the desired page is to delete everything after the first slash in the URL (which will take you to the site's home page) and browse the site or search for the specific page topic from there. For instance, if you typed <http://www.sitename.com/missingpage.html> in the Address field, delete the last portion of the URL to simply access <http://www.sitename.com>. You can also try switching the file extension. For example, if the URL ends in .HTML, try changing it to .htm instead (and vice versa).

Some sites create their own "404 Not Found" messages rather than relying on the



"500 Internal Error" indicates that the site has some server configuration problems. Sometimes, as in this case, the site will create a friendlier version of the message.



"404 Not Found" tells you a specific Web page is missing. You'll see many creative variations of this message while surfing.

generic one. For a fun look at other variations of these messages, be sure to check out <http://www.plinko.net/404>.

*** Error Message: "400 Bad Request"**

Translation: The remote server can't understand the URL you just typed. This is somewhat of a generic warning message, but it often means you have some sort of syntax error.

Solution: Double-check the URL to make sure you typed it properly. Did you use a backslash instead of a forward slash? Did you mean to type a tilde but instead hit the exclamation point? Incorrect cases of letters can also be the cause, so make sure you properly entered capital and lowercase letters. If you've verified the correct address, it may be that the fault is on the Web server's side. As with many other solutions, try going to the site's main page and searching for the desired document. Or try back again later. If all else fails, and you're sure you have the proper address, contact the Webmaster.

*** Error Message: "401 Unauthorized"**

Translation: Something (such as the remote server) doesn't think you should be accessing this Web site. Some site operators require you to enter a password or have the proper "encryption key" to visit portions of their sites.

Solution: If the site is asking you for a password, try entering it again. Because you probably won't be able to see characters on-screen as you're typing a password in the appropriate field (most likely, you'll see asterisks instead), pay close attention to your keyboard, especially regarding uppercase and lowercase letters. (Is the CAPS LOCK key turned on by mistake?)

Also, some sites let only those who come in from certain domains access portions of the site. (A domain is a set of connected computers. On the Internet, domains are denoted by three-letter codes.) For example, if you're trying to log on to a university site, the site or a portion of the site you're attempting to view may only allow access to users who are coming from .EDU domains. If you think this may be the case, there isn't much you can do other than access the site from an authorized domain.

*** Error Message: "403 Forbidden"**

Translation: This message can be daunting, but it doesn't mean your ISP (Internet service provider) or company is trying to block you from certain sites. Instead, it's much like the "401 Unauthorized" message, and this error means you are trying to access data on a Web site that its site administrators think you do not have permission to access.

Solution: Inputting the proper password or accessing the site from the correct domain (see previous solution) may be the answer. Some sites also require users to register so that they can track which individual users are attempting to access certain pages, and then deny entry to those who have not registered.

*** Error Message: "408 Request Timeout"**

Translation: No, the Web page is not asking permission for itself to sit back and chill.

Rather, it is notifying the browser that the server wasn't finished loading the desired page or feature (such as a downloaded file) before the browser asked it to stop, perhaps by the user hitting the Stop button. This may also occur when the user tries to close the browser while a page is loading or clicks a link before the entire page has loaded.

Solution: This often happens when servers are slow or when file sizes are quite large. There isn't a lot you can do about it other than to wait for the system to catch up.

*** Error Message: "500 Internal Error"**

Translation: The site is experiencing some server-configuration problems. (In other words, it is having some "technical difficulties.")

Solution: The problem lies solely in the domain of the remote site, so wait and see if the problem clears up. If not, contact the Webmaster for help.

*** Error Message: "502 service temporarily overloaded"**

Translation: There's a traffic jam on the Internet, and it's centered at the Web site you want to access. There are either too many connections for the server to handle, the number of users coming in and out of the site is too high, or a similar reason.

Solution: Like any traffic jam, you will not be able to move in that direction until the roadblock is cleared. You might be able to get through by reloading the page a few times. But if that does not work, browse to a side road and come back again later.

*** Error Message: "503 service unavailable"**

Translation: The site you're trying to access is having trouble.

Solution: This is somewhat of a catch-all category, so there are a number of possible solutions. The site may simply be down for maintenance, in which case your best bet is to try back later in the day. (It's rare for sites to generate this message for long periods of time.)

Natural disasters, such as lightning strikes, can also cause widespread 503 errors, so you might want to check the weather reports to find out if certain parts of the country have been affected. This error may also occur when your ISP is having trouble or your connection has been lost for some reason, and if

Not all sites can send you **"404 Not Found"** types of error messages; sometimes your PC or browser will send you the error message.

that's the case, you'll receive this message from every site you try to visit. Call your ISP if you suspect something like this is the underlying problem.

■ **Access Woes.** Establishing access to your ISP is the first step in getting online. (And if you're having difficulty with that task, be sure to read "Connections" on page 68.) But once you're connected, you may still find yourself experiencing problems accessing particular sites. Not all sites can send you "404 Not Found" types of error messages; sometimes your PC or browser will send you the error message. And they often overlap in the types of situations they cover. Here are some you might face.

✱ **Error Message:** "Failed DNS lookup" or "Server does not have a DNS entry" (or another variation)

Translation: The DNS (Domain Name System) is the system that translates the words in a URL (such as <http://www.smartcomputing.com>) into a valid Internet address that is represented by a series of numbers (such as 119.183.115.11). Each time you type a URL manually or click a link that takes you to a URL, your browser has to look up the address via the DNS. If the DNS cannot locate the address, you will receive an error and the site will not load.

Solution: Sometimes this error message appears as the result of a glitch, so press the Refresh or Reload button to see if the page will load correctly the second time around. If it doesn't, you may have entered an incorrect URL, so check for typos and try again. And, if you're getting this error message from multiple sites, the culprit could be a lost Internet connection. Reconnect or try going online later in the day.

✱ **Error Message:** "Connection refused by host"

Translation: You are not allowed to access this page, perhaps because it is password-protected or you're coming from a

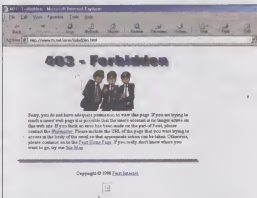
Bad Request

Your browser sent a request that the server could not understand

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- 3 [New Steps for Eco-Watch Series](#) by David Horvath
- 5 [Zane Z. Connors](#) by Zane Connors
- 6 [The World Conservation Union & the World Conservation Congress](#) by Mark Cleveland
- 7 [Tomb Raider: The Last Days of the World](#) by David Miller
- 8 [I hope we are all on-connection](#) by Andy Dault
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- 11 [The World Conservation Union & the World Conservation Congress](#) by Mark Cleveland
- 12 [The World Conservation Union & the World Conservation Congress](#) by Mark Cleveland

When the remote server can't understand the Web address you type, you'll see a "400 Bad Request" error message (or something similar).



"403 Forbidden" means you are trying to access data on a Web site that the site administrators think you don't have permission to access.

domain (.EDU, .COM, .GOV, etc.) that the server refuses to recognize.

Solution: This error message is similar to the "403 Forbidden" or "401 Unauthorized" messages in that the site recognizes that you either do not have the proper password or are coming from an unauthorized domain. As before, check any requested passwords for typos or verify with the site's administrator that you are coming from a valid address for this page.

✱ **Error Message:** "Host unavailable"

Translation: The machine that hosts the site you're trying to view is offline or down for maintenance. (A host computer is one that shares information with other computers, and a Web server is just one example.)

Solution: Click your browser's Refresh or Reload button a few times to see if something appears. If not, you'll have to wait until the site is back online before you'll be able to access anything.

✱ **Error Message:** "Host unknown"

Translation: The site you're trying to view wasn't found during the DNS lookup process. Potential explanations are that the server is not connected to the Internet, you've lost your Internet connection, or that you entered the URL incorrectly and the DNS could not find a matching, valid Internet address.

Solution: Click Reload or Refresh to see if perhaps this error occurred as the result of an online "hiccup." If that doesn't work, retype the URL and try again. Still no luck? Then make sure you still have your connection to your ISP. If all of these suggestions fail, your ISP may be receiving too much information or the site you are trying to reach may be down for maintenance. As with most error messages, try again later.

✱ **Error Message:** "Unable to locate host"

Translation: Similar to "Host unknown," this message usually means either your connection is down or the server has gone down for maintenance.

Solution: Try reloading the page first. If that doesn't work, check your Internet connection and reconnect if it has been severed. As in many other cases, it may also help to retype the URL, paying close attention to typographical errors and case sensitivity. If nothing works, it's likely the server has gone offline and will be back up later, so try again after awhile.

✱ **Error Message:** "Unable to locate server"

Translation: Yes, a Web server is a type of host, so if you think this is similar to the previous error message, you're right. It means your browser can't locate the remote server, perhaps because the URL has been incorrectly typed or the server no longer exists.

Solution: Double-check the URL. Did you type it exactly as you should have? If so, check the source of the URL to verify you've been given the proper address.

* Error Message: "Too many users"

Translation: Every site, from the mom-and-pop variety on up to the megasites such as Yahoo! and Amazon.com, has the equipment it needs to handle its anticipated number of users. It sets limitations for the maximum number of desired visitors—almost like fire codes in public buildings—so that those who are already at the site won't experience excruciating download and upload times. And if you're one of the overflow crowd, you may encounter this message (or a related one): "Too many connections. Try again later."

Solution: You won't be able to get on the site until enough others drop off. Keep trying, or better yet, try the site when it's less likely to be busy. Non-peak hours, depending on the type of site you're trying to visit, tend to be early in the morning or late at night. If this message occurs when you're attempting to download a file, look around and see if the file is available from another location. Many sites let users access what are known as "mirror" sites, which contain the same directory structure and allow you to perform the same tasks.

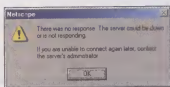
■ **Problems Once You've Reached A Site.** Phew! You finally got onto a site, so now you're golden, right? Not so fast. Quite a few things can go wrong once you've established a connection to a particular Web site. But don't worry; our short guide to the error messages you're likely to encounter should help you out of the following sticky situations.

* Error Message: "Connection timed out" or "Operation timed out"

Translation: Have you ever tried to load a Web page that normally takes a few seconds, but this time it's taking an eternity? Usually this has nothing to do with your computer or browser; the server on the other end is having difficulty. When you click a link to open a page, you are requesting a little bit of bandwidth from the server where the page resides. If the number of users

exceeds the available bandwidth to the server, your request can simply sit there until your browser decides to give up. That's when this error message will appear.

Solution: Remember, the Refresh or Reload button is your friend, so use it to send your request again. If this doesn't help, come back later. Also, some Web browsers let you determine the amount of time they will wait before giving up on a slow-loading page. Check the browser's Help files to adjust this feature.



Rather than displaying the "503 Service Unavailable" error message, the Netscape browser presents its own generic dialog box.

* Error Message: "Connection Reset by Peer"

Translation: You're surfing along smoothly, when all of a sudden, a little dialog box appears and tells you that your connection has been lost. Don't take it personally; a connection to the network can be closed at random long after a session is established and working.

Solution: This message usually appears as the result of a temporary malfunction, so just try to reconnect to the site. If this is a frequent problem, contact the site administrator.

* Error Message: "This program has performed an illegal operation and will be shut down."

Translation: This isn't as scary as it may seem at first. Also known as a GPF (general protection fault), this type of message appears when an application on your system crashes. If it happens while you're surfing the Web, it typically occurs when you have more than one browser window open.

Solution: There isn't a lot you can do when this message appears; it's simply warning you that the application will close, and as a result, you can't go back and save anything you were doing. It's inevitable that you'll see this message once in a while, but if you're seeing it frequently, that may indicate a more serious problem. Try reinstalling the browser software, or limit the number of windows you have open at one time because they may be

consuming more memory than the computer can handle.

* Error Message: "File contains no data"

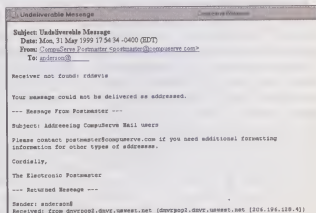
Translation: You've done your part, but the site hasn't done its part to make the connection happen. This error message appears when you've typed the proper URL, but for whatever reason, the pages aren't being uploaded from the server.

Solution: This often happens when sites are being updated, which only takes a few seconds, so hold on and try again in a minute or two. If you're requesting a directory, verify the URL includes the final slash (for instance, <http://www.sitename.com/directory/> instead of <http://www.sitename.com/directory>). This message may also occur when a page moves but the Webmaster doesn't update the link, so if the information you were looking for isn't posted shortly, contact the site administrator.

* Error Message: "Bad File Request"

Translation: Not to be confused with the "File contains no data" message, this one appears when you've been able to visit a Web page but can't fill out an online form it contains. Your browser lets you fill out forms (such as site registration forms), even ones with drop-down lists and other features, but for some reason, it doesn't support this particular one.

Solution: Most likely, the problem is that the form has been formatted incorrectly. So, e-mail the Webmaster and check back a few days later to see if he or she has fixed the error. There's also a slight possibility that the fault is with your Web browser, so make sure



If you see a message marked "Returned mail: user unknown," double-check the e-mail address for validity.

Web browsers are *robust pieces of software*, able to handle a wide range of files, but they can't do it all.

you have a recent version and it has been installed correctly.

*** Error Message: "Helper application not found" or "Viewer not found"**

Translation: Web browsers are robust pieces of software, able to handle a wide range of files, but they can't do it all. Have you ever tried to download a file from the Internet and been alerted by the computer that it can't find the application needed to run the file? For instance, it may be an uncommon graphics format (something other than JPEG [Joint Photographic Experts Group] or GIF [Graphics Interchange Format]), or it may be a movie clip, a sound file, or a compressed file.

Solution: You won't be able to view this file until you install the helper application on your computer. First, save the file to your hard drive (but don't try to open it until you know you have the right helper application). Then, try to track down the type of missing application by reading the dialog box that contains this error message. It may be a bit tough at first, but within the box, you may see some tip-off words, such as "graphic."

It also may help to ensure that you have common helper applications installed on your computer. These include the Adobe Acrobat Reader (files that use this program end with a .PDF file extension) and Apple QuickTime (for movie files ending with the .MOV file extension). Some of these types of applications are bundled with newer Web browsers. To install the two applications we just mentioned, visit the specific download pages of Adobe's site (<http://www.adobe.com/products/acrobat/readstep.html>) and Apple's site (<http://www.apple.com/quicktime>).

*** Error Message: "Cannot add form submission result to bookmark list"**

Translation: You filled out a form at a Web site and then tried to save the result in your Bookmarks or Favorites file. Yes, the URL looks like a valid address, and you can see the page it displays, but this particular URL cannot be "reused" because of the way it was generated, and therefore, it can't be added to the bookmark list.

Solution: If you have a printer and want a handy paper reference, just print out the form. Plus, you can still view the page later electronically. First, click Save As from the File menu, and then save the HTML file onto your hard drive. Next, open your Web browser window, click Open Page (or similar command) from

cookies. If you really want to visit this site, you don't have much of a choice: You need to enable cookie support. View the browser's Help file to find out how to enable and disable cookie support.

*** Error Message: "Session expired" or "Session timed out"**

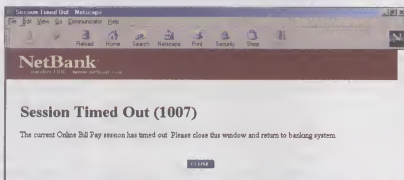
Translation: Some sites require you to log in, and then they monitor your activity. If you have been inactive for a predetermined amount of time, the site will "kick you off" and force you to log back in before you can proceed through the site. This is often the case with financial sites, such as online banks, and it is used as a security measure so that in case you leave your computer for any length of time, another person can't just sit down at your desk and resume what you were doing.

So really, this error message isn't an "error" at all; it's an additional security feature in most cases. (Please note that this error message is not the same as "Operation timed out," which has to do with slow servers.)

Solution: You've probably figured this one out

already. Yes, the solution is simply to log back in to the site. If the site hasn't required you to log in, you may come across a similar message that says something similar to "Page has expired" when you press the Back button on your browser. Click Reload or Refresh, and if your computer asks for confirmation, such as stating "repost form data" (a common request), click Yes or OK.

■ Non-Web Messages. Say the word "Internet," and chances are that anyone who hears you will think "the Web." But the Internet is more than just the Web; it includes e-mail, FTP sites, Usenet newsgroups, and more. And unfortunately, these pieces of the Net are also subject to errors. Here are six of the more common ones.



As a security precaution, some sites will automatically make you log back in if you've been inactive for a while. In these cases, you'll usually see a "Session expired" or "Session Timed Out" type of error message on-screen.

the File menu, and load the page into your browser that way. Then, add that page to your bookmark list.

*** Error Message: "Cookie Not Read" (or other cookie-related error messages)**

Translation: You may already be aware of cookies, information from a Web site sent to a browser and stored on your hard drive so the Web site can retrieve it later. A cookie can contain information about your login name, password, preferences, and more. For subscription sites, the cookie can make it unnecessary to log in each time. When this error message appears, it means the site cannot read the cookie, and it may not allow you to view the page.

Solution: You have the option to configure your browser to either accept or reject

* Error Message: "NNTP server error"

Translation: An NNTP (Network News Transfer Protocol) server error pops up when you try to log on to a newsgroup on Usenet (a giant bulletin board on the Internet that covers thousands of topics) and can't gain access. This message may appear for several reasons. The host server may be down. Your ISP may not provide access to this particular newsgroup. Or, you may have entered your user preferences incorrectly. And there are other reasons as well.

Solution: There are as many possible solutions as there are causes. One, wait for awhile and try the newsgroup again. Two, retype the URL and watch out for typos. Three, check in with your ISP to see which newsgroups it offers access to. (With thousands of newsgroups, ISPs can't provide access to all of them, so it may take some lobbying on your part to have this one included.) Four, double-check the preferences you've set up in your newsgroup reader. And five, as with Web-related errors, if the problem persists and you can't determine the cause, contact your ISP.

* Error Message: "Can't log on as anonymous user"

Translation: An FTP site is a computer that offers files to others through FTP, a standard way of transferring files over the Internet. Most FTP sites require users to log in, but many allow them to log in as "anonymous," so browsers often submit "anonymous" automatically as the user ID. And because some FTP sites do not allow this or limit the number of anonymous users, this error message might appear as the result.

Solution: If the site doesn't allow anonymous access, you need to contact the site administrator to obtain a valid user ID. On the other hand, if you're logging on to the FTP site during peak hours (especially during the evening), try returning later when fewer users might be logged in anonymously. Or, check your browser. Some (including a few versions of America Online) do not support anonymous FTP access.

* Error Message: "Permission denied"

Translation: This is another FTP-related error message. It occurs when you're trying to upload or download something to or from the FTP site and the site administrator won't allow you to.

Solution: Check that you used the correct syntax and try again. The site might be

extremely busy, so it may also help to wait awhile and then attempt the upload or download. If you keep getting the error message, your best option is to e-mail the administrator and ask how you can transfer files to and from that site.

* Error Message: "Returned mail: user unknown" or "Unable to send message" or "Undeliverable"

Translation: As one of the most common e-mail-related error messages, this one simply means you've sent an e-mail to an address that is considered invalid. It often appears to be rejected by a "Mail Delivery Subsystem," and you may see a line that says: "The following addresses had permanent fatal errors."

Solution: We all know how easy it is to mistype an e-mail address. Did you use an underscore instead of a hyphen? Or, did you send it to "myfriend@somewhere.com" when it should have been sent to "myfriend@somewhere.net?" Double-check the address and try resending the e-mail. If you're sure the address is correct, it's probable that the remote mail server is having trouble, so try sending the message again later. In addition, you may want to call recipients to let them know you've been having trouble sending them e-mail.

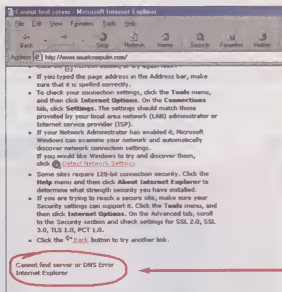
* Error Message: "Mail undeliverable: system down"

Translation: Similar to the previous error message, this one means that the e-mail message you tried to send didn't get through because the remote mail server is temporarily shut down.

Solution: Yes, the e-mail wasn't delivered, but there's no need (in most cases) to send the message again. Read the message carefully. It may tell you that the server will keep trying to send the e-mail for a few days until it finally reaches its destination.

* Error Message: "Returned mail" or sometimes referred to as "Undeliverable"

Translation: This type of e-mail message has been returned to you, but it typically is not because the address is invalid. This message often appears when the remote server flat out



Internet-related error messages, such as this "Cannot find server or DNS Error," can appear tucked away at the bottom of your Web browser's window.

rejects your message. Many ISPs (estimates are as many as half) subscribe to a service that blocks domains with reputations for sending spam (unsolicited commercial e-mail). The message may contain the phrases: "Refused by blackhole site dul.maps.vix.com" or "Refused by blackhole site relays.orbs.org."

Solution: Even if you aren't a "spammer," sometimes the remote service will block anything from your domain because of spammers who use it. So your first step is to contact your own mail administrator to see if your domain has been blacklisted. If so, you may want to ask your mail administrator to remove the offending party from your domain so that your e-mail can "get through." If not, try contacting the remote mail server administrator (you can often send such messages to "abuse@XX," with XX referring to the name of the server) and ask why your mail has been rejected.

■ **A Few Last Words.** The error messages we've covered here are some of the most common ones you'll encounter, but there are plenty of others you might run into during your travels online. If (or, until we live in a perfect world, we should say "when") you do see an error message that is unfamiliar, enlist the help of your ISP. The technical support representatives there have probably seen similar error messages before and can help you get back on the smooth Internet track. [E]

by Heidi V. Anderson

Connections

Stay Hooked Up When Communication Lines Break Down



For an increasing number of users, life without a solid Internet connection might as well be life without electricity. Between e-mail, live stock quotes, instant messaging, streaming entertainment, ASP (Active Server Page)-driven applications, and the like, the inability to connect is at least an inconvenience and at most a catastrophe. Connection errors can seem like random acts of fate, but more often than not, you can take quick, simple action to remedy problems as they arise.

Connection errors are common, especially when you first attempt to log on to your ISP (Internet service provider). Sometimes impenetrable, complex errors arise, but their occurrence is rare. Recognizing error messages and knowing how to take action helps you fix most problems in a snap. Here are a cluster of common hitches that dial-up, cable, and DSL (Digital Subscriber Line) modem users are likely to encounter.

Dial-Up Modem Errors

*** Error Message: "No Dial Tone."** These messages vary depending on which version of Windows you're using.

Sometimes 630 or 692 come before the message.

Translation: The modem isn't properly connected to the phone line.

Solution: Check to see if someone is talking on the line, perhaps in another room in the house. Simply pick up the nearest phone and listen. Try again when the other party is off the phone. If you subscribe to a voice messaging service from your phone company, there may be a "stutter" tone when you pick up the line, alerting

you that messages are waiting. This can confuse some modems. Once you retrieve your messages and a normal dial tone is restored, try again.

If you can hear a normal dial tone, the problem may be the physical connection between your modem and the wall. Look first to see if the line from the wall is plugged into the modem, and then check the connection to the modem. If you have an external modem, make sure that the cord that connects your modem to your computer is intact at each end. You also need to ensure that you are jacked into the correct socket on your modem. Most modems have two sockets, one labeled "line" and another labeled "phone" (or a picture of a phone). The cord running from the wall to the modem uses the socket labeled "line." The other socket allows you to plug a phone into the modem. If you have a phone plugged into the modem, pick it up and listen. If the connection between the wall and your modem is good, you should hear a dial tone even when your computer is turned off.

If all else fails, reboot the computer. If that doesn't cure it, technical problems plague your modem. It may simply need to be reinstalled,

but in a worst-case scenario, the modem may be defective and need to be replaced.

*** Error Message: "No answer."** **Translation:** Although it is dialing, your modem is not connecting to the ISP.

Solution: Are you dialing the right phone number? Depending on the software and OS (operating system) you're using to dial out, where you check to see if you're calling the right number varies. Follow the same instructions you used to enter the number in the first place, double-checking that you typed in the correct number.

Your modem may be timing out before it establishes a connection with your ISP. Change the timeout setting by clicking the Start button, pointing at Settings, clicking Control Panel, and opening Modems. Select your modem and click Properties. Click the Connection tab. Under Call Preferences, change your "Cancel The Call If Not Connected Within xx Seconds" setting to something greater, bumping it up as much as a minute or so. Click OK and then close. Attempt your connection again.

Perhaps the problem lies with your ISP. Try waiting for a while and then attempt a few more tries at connecting before calling their support line.

■ DSL Errors. Connection failure can be spontaneous or can occur after you have set up your DSL configuration. The following list should help you troubleshoot your connection problem.

*** Error Message: "Unable to locate server," "Unable to locate host," "Internet Explorer (IE) couldn't open the search page," or "Page cannot be displayed."**

Or the following error in Netscape: "<URL NAME> could not be found. Please check the name and try again."

Translation: Your browser is not connecting to Web pages.

Solution: If you receive these messages in your browser and you've been able to connect recently, the site you're trying to reach is unavailable or your browser is stalled. However, if you get this error for many sites, see if you were physically disconnected from the Internet. Because browsers cache Web pages on your hard drive, some sites may look deceptively normal. Attempt several sites you haven't visited recently to see if those fail. In the end, the problem may be with your ISP (or whoever is supplying your

ISP's connection) and you will have to wait for a resolution on their side.

If you don't see lights on your external modem, the device lost its power supply or the flow of data between it and your ISP. You can reset the modem by disconnecting its power supply (unless the manufacturer or your ISP warns against it) and plugging it back in. This forces the modem to renegotiate a connection to the ISP.

When you try to connect to the Web, data will pass from your network card to the cable modem

on its way to the ISP. If you do not see the network card lights flash when you open your browser and try to connect to a Web site, you have a problem within your machine. If you recently made changes to your network settings, suspect them first. Check this by clicking the Start button, opening Run, and typing winipcfg.exe in the Run window. Click More Info in the IP Configuration window. Are the settings reported those required by your ISP? If you recently installed a new card, you may need to pull the card and reinstall it.

Error Message: "MSIMN has caused an invalid page fault in module WININET.DLL" in Outlook Express.

Translation: The error happens to DSL users who use Outlook Express when the program is configured for a dial-up connection.

Solution: Make Outlook Express recognize and use your DSL connection instead. Open Outlook Express, click Tools from the menu, and select Options. Select the Connection tab and click the Change button. In the Internet Properties window, click the Connections tab and select the Never Dial A Connection radio button. Click OK; then click OK in the Options window. In the Tools menu again, select Accounts. Click your e-mail account and click the Properties button. Click the Connection tab and check Always Connect To This Account Using checkbox. Choose Local Area Network from the drop-down box and click OK. Then click the Close button.

If you can't start Outlook Express, right-click your IE icon on the desktop, and select



In some cases, Windows may time-out an attempted connection before your ISP can pick up the line. Fix it by increasing call cancellation time.

Properties. Click the Connections tab and choose the Never Dial A Connection radio button. Click OK.

If this option isn't enabled, it may be that you don't have any connections at all. You'll have to trick the system into thinking you have one. Simply create a "dummy" connection and try the steps again.

Cable Modem Problems

* Error Message:

Unable to obtain an IP address from a DHCP (Dynamic Host Configuration Protocol; a service run by a server that assigns you an Internet address) server. "Invalid DHCP Lease."

Translation: This is often accompanied by an inability to connect to the Internet or really slow connection speeds. The problem arises because both Windows 98 or Windows Millennium Edition and the DHCP service at your ISP try to assign an IP address. If DHCP loses the race to do this, you might get an IP address from your system instead. Because your OS has given you an address instead of the DHCP server, the network doesn't know how to send you information.

Solution: The fix is slightly different for one-way cable modems and two-way modems. You know you have a two-way modem if a network card and a cable modem make your Internet connection. One-ways rely on a dial-up account for upstream communications.

Here is the procedure for two-way cable modems, which are now the dominant format in today's market. This releases the IP address assigned by

your PC and calls out for the DHCP server to offer up a replacement address. Click the Start button, and open Run. Type winipcfg and hit ENTER. In the IP Configuration window, choose your network adapter from the drop-down list. Confirm that the IP Address box has a Windows-assigned address of 169.254.x.x (where x equals any number from 0 to 255). Click Release and Renew.

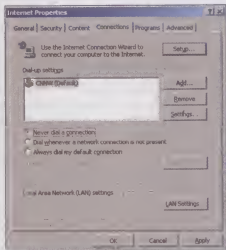
Final Checks. If your connection trouble isn't covered above, use the "ping" command to find out if you can send data packets to a destination and back. Ping sends an echo message to the target host. The length of time it takes for the message to return is an indication of network speed. Essentially, you want to see if your PC has become severed from the Internet.

Open a DOS prompt and type ping followed by a space and then the default gateway address supplied to you by your ISP. (You can also type the command straight from a Windows Run prompt.) You can also ping a remote domain to see if its server is responding. For example, you could type ping yahoo.com. If you are connected and the Yahoo! site is up and working, its remote server will reply to your ping, signaling that the site is operational.

If all these troubleshooting methods fail, hit the support pages for your ISP, modem manufacturer, and/or OS manufacturer. Perhaps you added a new faxing application that conflicts with your communications settings

and requires a driver change, or maybe your Linux distribution isn't yet fully compatible with your modem. Whatever your situation, the odds are good that you're not the first to encounter your error message. With luck and reputable vendors behind you, the answer to your connection conundrum is waiting just around the corner. **[E]**

by William Van Winkle



Once you switch to an always-on connection, as on a LAN or DSL, Outlook Express may still think you're using a dial-up modem. If so, specifically tell Outlook Express never to attempt a dial-up session for your ISP's account profile.

Internet Explorer

Remove Obstacles For A Smoother Web-Browsing Experience



The avid IE (Internet Explorer) user realizes that errors *do* happen. And usually, these errors seem to appear on-screen at the most inopportune times. But truly fatal errors are few and far between, and when you understand what the error message is saying, the solutions are relatively simple.

■ **Download & Installation.** While most IE installations proceed without a hitch, an occasional error message can occur. If the issue isn't the downloading process, the Internet connection, or a previously incomplete download, it might be a file conflict during installation. Because many of the files copied to the system during installation are DLL (dynamic-link library) files, the margin for error messages rises. DLLs are executable subroutines stored as separate files from the programs that use them. DLL files that can't work with existing software may cause errors, and the same is true of deleted or corrupt DLL files.

✱ **Error Message:** "IE5WZD caused an exception C0010000H in module KERNEL32.DLL" or "IE5WZD caused an invalid

page fault in module MSJAVA.DLL at XX" (or something similar)

Translation: Any error message similar to those listed above can show up when you install IE. Invalid page faults may happen when the operating system fails to access data that an active application requested. Exception errors occur when an application or the operating system attempts to access invalid data, such as a corrupt file. In the case of these errors, the Microsoft Java Virtual Machine is most likely damaged (in this case, XX refers to a specific Internet address).

Solution: Open the Start menu, choose Find (or Search in Windows Me), and then click Files Or Folders. In the Named field, type msjava.dll and click Find Now (or Search Now). In the list of found files, right-click the Msjava.dll file in the Windows\System folder, and choose Rename. Change the name to Msjava.old, close the Find All Files dialog box, and restart your computer. Try running Setup again.

If the problem persists, open the Start menu, choose Programs, and then select Windows Explorer. Double-click the Windows folder and the Downloaded Program Files

folder. If you have a DirectAnimation Java Classes file, select it, and then choose Remove Program File from the File menu. Repeat the process to remove the Internet Explorer Classes for Java, Microsoft XML Parser for Java, and the Win32 Classes files, and then restart your computer. Finally, you must download the latest version of the Microsoft Java Virtual Machine from <http://www.microsoft.com/java/download.htm>.

✱ **Error Message:** "Setup was unable to install all the components. Please close all applications and try running Setup again."

Translation: You may receive this error message upon installing IE. This message can occur if the Cabinet.dll file located in the Windows\System folder is missing or damaged on a computer that has either Internet Explorer 4.01 Service Pack 1 or Windows 98 installed.

Solution: Insert your Win98 installation CD-ROM, open the Start menu and choose Run. In the Open field, type `sfc` and click OK. Next, select the option to Extract One File From Installation Disk. When asked which file, type `cabinet.dll`, and then click Start. In the Restore From field, type `x:\win98` (x is the drive letter of your CD-ROM drive). In the Save File In field, type `c:\windows\system` and click OK. Click OK again, and then click it one last time when the file has been successfully extracted.

✱ **Error Message:** "Setup could not retrieve the information needed for the installation. The network is probably busy. Please run Setup again later." or "Setup was unable to download information about available installation sites. Setup may have been unable to migrate your current proxy settings. Click the Advanced button if you know your proxy settings. The network may be busy. You can retry now, or if you continue having this problem, please try Setup at a later time."

Translation: When you attempt to download and install IE from the Internet, one of these error messages may appear when you select your download location. The first possibility is that your computer has no hard drives marked as "fixed" to which to download the program. Secondly, the server you are trying to connect to might be busy. Finally, there may be a problem with the security features (or proxy settings) on your computer.

Solution: The solution requires you to determine which of the three issues is causing the error. Begin by verifying that the drive to which you are installing IE is not marked as "removable," such as a Zip drive or a floppy diskette drive might be. Click the Start button, Settings, and then Control Panel. Double-click System to open the System Properties dialog box. Go to the Device Manager tab, and then select the name of the drive to which you are attempting the installation. Click the Properties button, and then open the Settings tab on the ensuing dialog box. Here, verify that the Removable checkbox is not selected. If it is, either it is selected in error, or you are trying to install IE on the wrong drive.

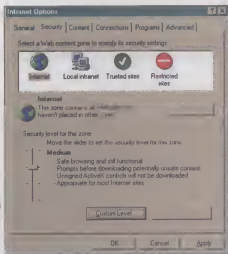
It is a strong possibility that the download server is just too busy to accommodate your download. You may want to simply disconnect and try the installation again during an off-peak time, such as late at night or early in the morning.

Finally, if you suspect that the problems are with your computer's security features, you'll need to rename a few files, starting with Wintrust.dll. You can hunt for the file with Windows Explorer or My Computer, but probably the fastest method is to click the Start button, Find (or Search in WinMe), and Files or Folders. In the Named field, type wintrust.dll, and then click Find Now (or Search Now).

In the list of found files, right-click the Wintrust.dll file in the Windows\System folder and choose Rename. Change the name to Wintrust.old, close the Find All Files dialog box, and restart your computer. Try running Setup again, and if the issue is still not resolved, repeat the above steps with the Wininet.dll and Urlmon.dll files.

*** Error Message:** "Windows Update Setup. A previous program installation was never completed. You need to restart your computer to complete that installation before running Internet Explorer Setup. Setup will now close."

Translation: You may see this message appear on-screen if you have not yet restarted Windows following your last new installation or file update. Some installations or updates actually replace files that Windows uses while it is running. Thus, Windows must be shut down and restarted so that the files can be updated during the startup process, before being loaded into memory. IE detects such unfinished installations, and it refuses to install itself until the pending operations are finished.



If you've set your security settings so high that you continually bump into error messages when you browse, you may need to visit the Internet Options dialog box to modify these settings.

Solution: Click OK to close the IE Setup, and then restart Windows. After restarting, try to run Setup again. If you still get the error message, try restarting Windows one more time. Generally, shutting down and restarting the computer solves the problem.

■ Illegal Operations & Invalid Page

Faults. Illegal operations and invalid page faults pop up in more than a few different error messages. Usually, the message begins with notification that an illegal operation has occurred, and upon clicking the Details button, it offers specific information about an invalid page fault occurring in a particular file. You may also find invalid page fault messages standing alone.

As mentioned earlier, DLL files play a major role during program installation and startup (although they can cause problems at other times, too). Damaged or deleted DLLs or DLLs that conflict with other programs are grounds for an illegal operation, followed by notification of an invalid page fault in the offending file.

Unfortunately, it's almost impossible to list every imaginable illegal operation/invalid page fault error message because each variation of the message refers to a different faulty DLL file or a conflict with another specific

application. When you receive these errors, we suggest that you write them down (including the Details section), and pay Microsoft's Web site a visit. Its searchable Knowledge Base (<http://search.support.microsoft.com>) documents dozens of IE error messages, along with solutions. Select Internet Explorer from the list of products, and then use the search options to find information about your specific error message.

*** Error Message:** "This program has performed an illegal operation and will be shut down. If the problem persists, contact the program vendor." with Details such as: "IExplore caused an invalid page fault in module Mshtml.dll." or "IExplore has caused an error in Mshtml.dll. IExplore will now close. If you continue experiencing problems, try restarting your computer." (or something similar)

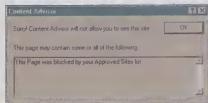
Translation: You may receive these types of error messages after installing IE. And by clicking the Details button in the error message window, you'll see the second part of the error message. During new program installations, many of the files copied to the system are DLL files. And, as we mentioned previously, DLL files that don't work with existing software or DLL files that have been deleted or become corrupt frequently cause illegal operation messages and then shut down the program.

Solution: This particular error message might be caused by a conflict with an earlier version of Gator software by Gator.com. Gator helps Internet

users expedite the process of filling out forms online. To solve the problem, you can either uninstall Gator or upgrade to the latest version of the software. For more information, visit <http://www.gator.com/help/1525.html>.

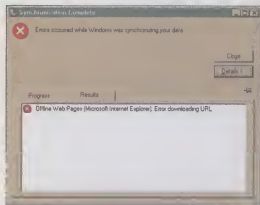
*** Error Message:** "IEXPLORE caused an invalid page fault in module KERNEL32.DLL at 025fbff87ede." or "IEXPLORE caused an invalid page fault in module <unknown> at 0000.78581f00."

Translation: You might receive one of these error messages when you quit the last or next to the last window of multiple open IE windows. Note that the memory address (such

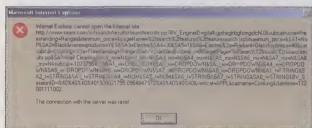


If you've designated a Web site as off limits, this error message appears when someone tries to access it.

Whether you are surfing the Internet, printing a Web page, or exporting your Favorites list, IE is capable of producing an appropriate error message for any given activity.



When Internet Explorer synchronizes your Favorites for offline viewing, it may display this error message to tell you that it could not synchronize one or more pages.



If you see an error message like this, chances are you've suddenly lost your Internet connection. Reconnect and proceed as usual.

as 025fbff87ede or 0000.78581f00) listed in the error message may vary.

Solution: These errors result from running the Aureate/Radiate software on your computer. This program, which is included with more than 250 shareware programs, activates when you start IE or when you start the associated program that contains it. It monitors which banner ads you click and how much time you spend reading them.

In this case, there is no choice but to delete the program from your system. Visit <http://www.radiate.com/privacy/remover.html>, a specified page on Radiate's site that can provide you with information about the proper removal of its files. Or, contact Radiate (650/903-0790; <http://www.radiate.com/contact.html>) to inquire about the availability of a fix if you really want to keep the software.

*** Error Message:** "This program has performed an illegal operation and will

be shut down. If the problem persists, contact the program vendor." with Details such as: "IEExplore caused an invalid page fault in module XX at 015f7106a742." followed by a closing of: "There was an internal error and one of the windows you were using will be closed. It is recommended that you save your work, close all programs, and then restart your computer."

Translation: This error can occur when you drag the Internet icon from the Address bar to the Favorites menu and then to the Links folder or a folder beneath it. Once again, the underlying cause is probably a faulty DLL file. Within the error message, XX represents Browseui.dll or unknown.

Solution: As the message suggests, restarting your computer is never a bad idea. If this doesn't help, you may be able to work around the problem by adding your Favorites manually. Rather than dragging the Internet icon from the Address bar,

open the Favorites menu and choose Add To Favorites. If the error persists, try deleting your History files and temporary Internet files. Choose Internet Options from the Tools menu, and then select the General tab in the Internet Options dialog box. Below Temporary Internet Files, click Delete Files. And then below History, click Clear History.

■ **Security Errors.** IE lets you choose your own level of security for Internet usage. You can specify whether to allow or disallow everything from cookies to ActiveX controls and Java applets to file downloads. Errors occur when your browsing activity conflicts with the security setting you've chosen.

*** Error Messages:** "Your current security settings prohibit running ActiveX controls on this page. As a result, the page may not display correctly." or "Your current security settings do not allow this file to be

downloaded." or "To provide a more personalized browsing experience, will you allow this Web site to save a small file (called a cookie) on your computer? The file can only be used by this Web site."

Translation: These three messages represent only a few of the conflicts you may encounter when you attempt an Internet activity that requires IE to go against your high security settings.

Solution: If you continue to stand behind your security safeguards, you'll just have to accept the fact that a given Web page may not run properly, a file cannot be downloaded, or an online shopping transaction cannot be completed. Alternately, you may opt for a braver stance toward browsing and decide to relax your security settings in favor of being able to do more things online.

Adjust your security settings by opening the Tools menu, choosing Internet Options, and then selecting the Security tab. Click the Default button to select one of IE's predefined security levels, or click Custom Level to define your own level.

■ **Miscellaneous IE Messages.** Whether you are surfing the Internet, printing a Web page, or exporting your Favorites list, IE is capable of producing an appropriate error message for any given activity.

*** Error Message:** "Unable to export favorites." or "Unable to export cookies."

Translation: When you employ IE's Import/Export Wizard to export either your Favorites list or your cookies file, you may run into one of the above error messages.

Solution: Upon exporting your cookies or Favorites, the Import/Export Wizard asks you the name of the folder to which you want the information exported. If you enter the name of a folder that does not exist, the wizard attempts the export, but then quickly displays one of the above error messages to indicate that it is unable to complete your request. Quite simply, the problem is solved by either accepting the default destination folder suggested by the wizard or by clicking Browse to find an appropriate folder somewhere else on your computer.

*** Error Message:** "Internet Explorer could not open the search page."

Translation: This message means, quite simply, that Internet Explorer could not open the Web page you requested.

Solution: This is an error message you will see when you type a Web address in the Address field without beginning it with "http://". Generally, leaving off the customary "http://" is not a problem, but this error may occur if your IE connection settings are not configured properly, or if you are not currently connected to the Internet.

Restoring your online connection should immediately resolve the problem. Either connect to the Internet manually, or run the Internet Connection Wizard to create a new connection. Choose Internet Options from the Tools menu and select the Connections tab. Here, click the Setup button to let the wizard walk you through creating a new connection.

If you are already connected to the Internet, it is likely that your connections settings are configured incorrectly. Open the Tools menu, choose Internet Options, and verify the settings specified on the Connections tab.

*** Error Message:** "Internet Explorer cannot open the Internet site XX. The connection with the server was reset."

Translation: This error message is IE's way of telling you that it cannot open a particular site (XX refers to the Internet address) because you were suddenly disconnected from the Internet.

Solution: Redialing and establishing your connection typically solves this problem.

*** Error Messages:** "Unable to print document. Either the document's application is not installed correctly, there is not enough memory to load the application, or this application does not support printing (for example, sound files cannot be printed)." or "Internet Explorer cannot open the Internet site XX." or "The operation timed out."

Translation: Any of these error messages can occur when you request to print a Web page along with all of its linked documents (by choosing File, Print, and then select Print All Linked Documents).

The first message refers to instances when IE cannot open an application related to one of the linked documents. If a particular application is required for a Web page, and that application is either installed incorrectly or unable to load, the page cannot print. Likewise, you may have inadvertently requested that IE print a sound file, a video file, or some other type of file that is obviously unprintable.

The second error message occurs when IE cannot open one of the linked Web pages.

If the link is incorrect or the page does not exist anymore, nothing can print and the error message appears.

Finally, if you receive the "operation timed out" error message, then you know that IE simply did not have time to retrieve

and print the Web page and all of its linked documents.

Solution: If you see either the first or the second message we listed, odds are that you might be dealing with links that are unprintable (meaning they contain material of an unprintable file type or are simply nonexistent pages). In either case, sending a collective print job for the page and all of its linked documents probably won't be possible. As painstaking as it is, you will need to print the job manually by right-clicking each link, one at a time, and choosing Print Target.

These errors, particularly the "operation timed out" message, are especially prone to occur if you use a slow connection to the Internet, such as a modem and phone line. Thus, printing the pages offline may improve your situation.

To do this, open the Web page, open the Favorites menu, and choose Add To Favorites. Select Make Available Offline, and then click Customize. Allow the Offline Favorites Wizard to help you choose which linked pages you want available and, if you want, set up a schedule for synchronizing. Be sure to choose Yes when asked whether to make linked pages available offline, and then specify how many links deep you want IE to download before the wizard walks you through the remaining steps.

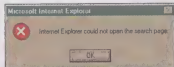
IE should proceed to download the pages as soon as you are finished with the Offline Favorites Wizard. Before you disconnect from the Internet, open the File menu and click Work Offline. You may now disconnect from the Internet, choose Print from the File menu, and attempt to print that page and all of its linked pages.

*** Error Message:** "Errors occurred while Windows was synchronizing your data."

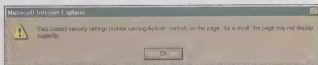
Translation: When you ask IE to synchronize your offline Favorites, you may receive this error message if one of those Web sites is down, no longer exists, or the address has changed.

Solution: Clicking the Details button should reveal which Web page caused the problem. You can then delete the faulty site from your Favorites list and replace it with the new location after you find it.

■ **Signing Off.** Although each error message has its own prescribed fix, there are no guarantees. If you follow all the solution steps offered for a given error message and still fail to resolve



This message indicates that you are probably offline or need to correct one of your connection configurations.



For security reasons, you might tell Internet Explorer not to permit the running of ActiveX on Web sites. The catch is that some Web pages won't display properly unless you change your security settings.

the problem, you might try a different approach. Sometimes, simply closing and then reopening IE does the trick. Then, if necessary, try shutting down and restarting your computer. If that doesn't work, you can always try reinstalling IE. A clean installation often goes a long way toward eliminating errors. To review more IE error messages, you can access our Web-only "Content Advisor" sidebar at <http://www.smartcomputing.com/learning/errors/IE>.

Also, because we couldn't address every single IE error possibility, it is highly likely that you either have or will encounter an error message that we didn't mention. Because Microsoft has a vested interest in its Web browser, we again suggest that you check out its Knowledge Base and FAQs the next time an unknown error message leaves you hanging. [LS]

by Hannah Henry

Netscape

Methods To Mend The Mayhem Of Netscape



Believe it or not, error messages that periodically appear on your monitor screen are meant to actually help you, whether it's by providing information that lets you know you're doing something not allowed, your computer is malfunctioning, or something just isn't right in general. Often, however, rather than provide help, many error messages seem like nothing more than cryptic annoyances.

The best thing you can do to prevent error messages from appearing is to learn more about them. On the pages below, we've listed some error messages you may encounter while using Netscape 6 (<http://www.netscape.net>) and older versions of Netscape's Navigator browsers and Communicator suites. You'll also find information on how to work past these messages.

As you consider the specific error messages below, remember that sometimes the simplest error can be the most frustrating one. Before

you start troubleshooting, take a deep breath, wait a few minutes, and try to repeat what you were attempting to do with your computer before the error appeared. Sometimes a problem will fix itself. In addition, be sure your computer and Internet connection are running smoothly. If these simple checks fail, read on to see to learn how to decode and remedy error messages related to Netscape.

■ Server & Network Predicaments.

Netscape isn't a standalone application, in the sense that it works with other computers and programs to let you view Internet Web pages and content. Because of this dynamic, it's reasonable to expect errors to occasionally occur. While connectivity-related problems can signify something is in fact wrong with Netscape, these errors aren't always as dire as they may seem.

Most of these types of messages have more to do with a server or network hiccup than they do with Netscape. These problems generally reside somewhere on the Internet, and in many cases, the best thing to do is exercise some patience until the problem resolves itself. Below are a few common connectivity-related error messages.

*** Error Message:** "Netscape is unable to locate the server: `www.XX.com`. Please check the server name and try again."

Translation: XX represents the URL (uniform resource locator) of a Web site you're trying to connect to, such as `http://www.smartcomputing.com`. You may see this error message when the Netscape browser you're using is unable to find the DNS (domain name server) needed to access the site.

Solution: There isn't a sure fix to this problem. However, the causes are usually straightforward. First, make sure you have entered the correct URL. A typo or misspelled entry can send you to the wrong site or a dead link. Also, check if the DNS is inaccessible for some reason, such as if the server is down. For example, if you receive the error message above when trying to access several other sites, the problem is probably with your server. Try sidestepping this problem by waiting a few minutes to give the server time to get up and running again. If this isn't successful, let your ISP (Internet service provider) know about the problem.

*** Error Message:** "There was no response. The server could be down or is not responding" or "System call 'connect' failed: connection refused."

Translation: This error is classified as a "host error" and typically means the Web site you're trying to reach exists, but when the browser attempts to view it, it is unavailable. A possible reason for this is the site is inoperable because of maintenance or other problems. If this is the case, try waiting and then reaching it later. An easy way to check if a site is down is to "ping" it. A ping (Packet Internet Groper) is a signal sent to another computer, which returns the signal with information about how long the message took to travel. If a message fails to return, you know the computer is down.

Solution: To ping a host computer, click Cmd and then Run. In the Open field, type `cmd` and click OK. A window will open in which you can enter DOS commands. At the prompt, type `ping XX` with XX being the URL

you want to reach. For example, you might type at the prompt: <http://www.smartcomputing.com>.

If a message that reads, "Request timed out" appears, the site is down. This message may also indicate the site is busy and is unavailable to all users. This occurrence is similar to trying to call home on a holiday, only you cannot get through because all of the phone circuits are busy. Wait and try again later. You may also see this message if your server is experiencing difficulties. You'll know this is the case if all or the majority of Web sites you try to connect to report as being down. In this case, contact your ISP.

*** Error Message:** "Netscape was unable to create a network socket connection."

Translation: This message usually indicates a problem with WinSock (Windows socket), which is an interface used in Microsoft Windows to create programs based on TCP/IP (Transmission Control Protocol/Internet Protocol). TCP/IP is used mainly to make network connections. The message you see above usually means WinSock was loaded after Netscape was opened.

Solution: Try working around this glitch by closing the Netscape browser you're using and restarting it. Also, check if you have a compatible version of Netscape running with the WinSock version running. For example, if you have a 32-bit version of Netscape running with a 16-bit version of WinSock, you see problems. Uninstall the current Netscape version and then install a 16-bit version. You can download one from Netscape.

■ Stalling Installations. The most difficult aspect of using Netscape can often be trying to configure a new installation of the application. Netscape 6 is sleeker and generally overall better than its predecessors, but this newer version can still present a few problems for even the most savvy of computer user. Netscape 6 and the other versions of Netscape's components incorporate several features that may clash with your machine.

Here are a few solutions to common new installation ailments.

*** Error Message:** "Your browser sent a message this server did not understand."

Translation: You may see this message appear on your screen when you try to download Communicator or Navigator, even before you can start the installation on your computer. This message is simply indicating that your current browser is having difficulty reaching the Netscape server.

Solution: The easiest way to download Netscape software is to go directly to the source, which is an FTP (File Transfer Protocol) site. Below are links you can use that lead to the appropriate download. The server should understand what you're asking for using one of these links: Netscape FTP sites: <ftp://ftp.netscape.com/pub>; specifically for Communicator and Communicator Pro: <ftp://ftp.netscape.com/pub/communicator>.

*** Error Message:** "Error 214, File Not Found."

Translation: This error can show up during an attempt to install Netscape 6. It often stems from a temporary connection or server problem that happens during setup or if other plug-in versions included in Netscape 6 are already running on your machine.

Solution: Stop your installation attempt and completely shut down your computer. Restart the system and then close all programs that start automatically, such as Instant Messenger. If you're not sure what programs start automatically, click the Start button, Programs, and Startup. Anything in this folder begins when your computer starts. When the programs are closed, restart the Netscape 6 installation.

*** Error Message:** "Decompression of %s failed" or "WinExec failed: return=2" or "Error 101, 831K more of disk space needed, can't find a place for temporary files."

Translation: One of these errors can cause a Navigator or Communicator installation to grind to a halt. The message can

appear if you have enough free space on your hard drive, even though the message may indicate you don't.

Solution: There are several possible solutions to this type of problem. The first is making certain a file named Uninst.exe doesn't have a Read-only attribute checked. To check this, click the Start button and then, depending on your operating system, click Search or Find. Click Files And Folders and enter the file name in the Named field and click Find Now. Right-click the file name when it appears and click Properties. From the General tab, look to see if Read-only is checked. If it is, deselect it and check Archive instead. Reinstall the program you're trying to load. If it still doesn't work, it's likely that the files were corrupted during installation. Try downloading Navigator or Communicator again.

*** Error Message:** "The Netscape.exe file is corrupted or missing."

Translation: The meaning of this message is fairly obvious. After downloading the Netscape 6 upgrade, your computer can't read the file because it is corrupt.

Solution: It's possible you'll see this error message if you have a previous version of Netscape installed on your system. Your first step should be to uninstall all versions of Netscape before you try to implement a new one. Also, scour your system for any Netscape-related files and delete them. When complete, try to download Netscape 6 again and reinstall it.

*** Error Message:** "Error 5."

Translation: A user running Windows 2000 or Windows NT may see this error if he doesn't have administrator privileges and tries to install a Netscape component. The error appears because the program won't let a user without these privileges install the software.

Solution: If you are able to log on to a network system as an administrator, click the Start button and then Shut Down. Select Log Off XX, with XX being the logon name. When the system restarts and the logon window appears, enter the administrator username and password and try to install Netscape. If you don't have administrator privileges, contact your administrator and ask for assistance with the installation.

■ Add-on Minuses. Often, trying to simply access Web pages can lead to enough trouble, but throw Instant Messenger, e-mail,



You can ease the woes of installing Netscape by making sure the files needed to install the application aren't marked with a Read-only attribute.

and newsgroups tasks into the mix and using Netscape can be truly frustrating. Not every error you run across has to bring your Internet session to a halt, however. Below are some hints for fixing some common problems you may encounter when using Netscape's accessories.

* Error Message: "POP email server not recognized."

Translation: If you migrate from Communicator 4.7x to Netscape 6 and see this message, it probably means the e-mail program in Netscape 6 can't read the POP (Post Office Protocol) settings it is trying to import from Communicator. This POP lets messages be sent from one computer to another.

Solution: First, make sure the POP settings from Communicator match those imported to Netscape 6. If the settings are correct, you need to remove the imported settings and reinstall the account as a brand new one. In the Netscape 6 window, click Edit and then Mail/News Account Settings. In the Account Settings window, find and click your e-mail account and click the Delete button. Click the New Account button and follow the on-screen directions to re-create the mail server account.

* Error Message: "Can't read newsgroups."

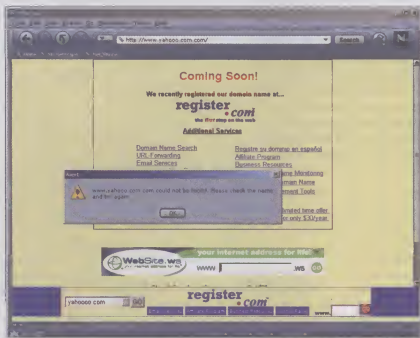
Translation: The newsgroup you are trying to read can't be displayed. Usually this is due to the connection information in the Preferences area being incorrect, or there may be a problem with your ISP's server.

Solution: Make sure the settings are correct in Mail by clicking Edit, Preferences, and then News/Mail. In the Servers area, make sure the information listed is complete and correct. If everything appears correct, contact your ISP to determine if it is having difficulties that might cause the error.

* Error Message: "Mailbox does not exist."

Translation: You may see this error creep up if you try to use the Empty Trash command but Netscape can't delete the messages. This may occur if the Trash folder contains files or folders that contain non-ASCII (American Standard Code for Information Interchange) characters, which are essentially plain-text characters, as opposed to special characters, such as the smart quotes generated by Microsoft Word.

Solution: You can try to first delete the files with Communicator 4.x, if you still have the application on your machine. Another alternative is if you can see the files, try to rename them, and then select the Empty Trash command.



If you have trouble reaching a Web site or get an error message like the one above, the first thing you should do is make sure the Web site address you typed is correct. If it's not, you will probably reach the wrong site or a dead end.

* Error Message: "JavaScript Error."

Translation: You may see this particular phrase when you attempt to sign on to Instant Messenger but are denied access. This is due to the program being unable to read your connection preferences.

Solution: Try checking the connection preferences to make sure they are set correctly. The fastest way to access the Preferences is by right-clicking the Instant Messenger icon and then selecting Preferences from the context menu that will appear. Under the Connection tab, check the Host box in the Server section. The default server host should be set to

login.oscar.aol.com. In addition, check to see that the port is set to 5190.

* Error Message: "Unknown Error."

Translation: This message can appear any time an error without a specific error message associated with it occurs. However, if you see it with Netscape 6 when you are trying to select messages that weren't downloaded, it often indicates you have low drive space.

Solution: Quit Netscape and delete unnecessary files on your system to free up some drive space. Restart the program. You should now be able to download e-mail messages without the error notice appearing.

■ **Not Netscape.** Often, error messages that seem related to Netscape can make you so angry you're ready to throw the program permanently in the Recycle Bin. Hold off, however. The problems you're seeing may have nothing to do with Netscape. Many of the error messages likely have origins outside of Netscape, although they might in some way be related to the program. Below, we have identified a few difficulties that take the heat off Netscape.

* Error Message: "404 Not Found" or "Document Not Found."

Translation: These messages generally mean

the file you're trying to access doesn't exist or your browser can't find the Web page you're looking for.

Solution: First, check for typos and make sure you entered the URL correctly.

If the Web page is simply gone, there's nothing you can really do about it, short of cajoling the page's author to put it back. But if you're receiving this message repeatedly for pages you are certain exist, the problem might reside in your computer's cache, which is the area in your computer that temporarily stores data, including Web page-related files. These files are used so pages load more quickly the next time you look at them. If the

cache memory is set too low, you might see repeated 404 error messages. Try to increase the space allocated for cache by clicking Edit from the browser's menu bar. Click Preferences, Advanced, and then Cache to increase the cache size.

*** Error Message: "404 Access Denied" or "403 Forbidden."**

Translation: These messages mean you don't have permission to view the Internet file you're trying to access.

Solution: The Webmaster of the site that contains the file has restricted access for some reason. For example, if the Web site requires a user registration in order to view the site's content, you won't have clearance and may see one of these errors. However, if you know you should be able to view the file, contact the Webmaster to have permissions granted to you.

*** Error Message: "Connection timed out."**

Translation: This message indicates your computer took too long to access the file on a remote computer and gave up trying.

Solution: This message can usually be attributed to network congestion. The best thing to do is wait a few minutes and then try again. This message might also indicate your Internet connection is to blame. Sometimes you can solve this by ending your connection, waiting a few minutes, and then going online again.

*** Error Message: "Error 57."**

Translation: You're likely to see this message when you try to transfer a file via FTP. It usually indicates a server is busy or overloaded.

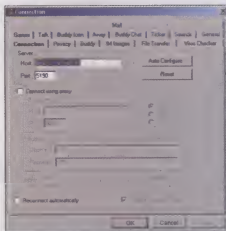
Solution: Try to download or upload the file with Netscape during off-peak hours, when the site you're trying to access is less likely to be busy.

■ **Miscellaneous Problems.** The error messages below don't fall into a particular category, but they can still be annoying and hinder your productivity. Solutions to handle them are included.

*** Error Message: A yellow exclamation point (!).**

Translation: This wordless message can appear when you click the icon for Navigator or Communicator and the program

won't start. This is a sign a file in the Windows Registry is corrupt. The Registry is an area where information related to your preferences and system configuration is located. In short, the Registry is the central core of your system. It holds data about devices, drivers, programs, and files, and when data contained in it is damaged, errors galore can appear.



You can abate connectivity problems related to Instant Messenger by making sure that the correct server information has been entered in the application's Connection properties.

Solution: If the Registry is damaged, try using the Last Known Good Configuration option. But before doing this, it's a good idea to back up important files by clicking the Start button and then Shut Down. Click Restart and then click OK. While the system is rebooting, watch for a message that reads: Please Select The Operating System To Start, Press F8. When you see it, Press F8. From the menu that appears, use the arrow keys to select Last Known Good Configuration and press ENTER. Use the arrow keys to highlight the operating system you use and press ENTER. Windows will load an undamaged version. However, everything that was saved after this date will be lost, so you may have to reload programs or restore files.

*** Error Message: "Bookmarks have Changed on Disk."**

Translation: In actuality, you can breathe easy, because your Bookmarks have not really changed. Instead, this error message appears in correlation with daylight-saving time when you exit Netscape.

Solution: Netscape reports it is aware of this bug and is working on a fix. A patch

should be available in coming months for a download to eliminate the problem. The problem is annoying but harmless. If it really bothers you, open Bookmarks by pressing CTRL-B to add, delete, and change your Bookmarks. This should make the error message go away.

*** Error Message: "Cannot edit non-HTML documents."**

Translation: This message can appear if you're trying to edit a document in Composer 4.x that can't be handled. The problem may be due to you trying to edit a document that isn't an HTML (Hypertext Markup Language) document, such as a sound or video file.

Solution: Composer doesn't have this capability, so there's no workaround for it. But if you are trying to edit an HTML document, click Edit, Preferences, Navigator, and Applications. You should see that Hypertext Markup Language is marked as the MIME Type with text/html. If it's not, click the Edit button and in the MIME Type box, type text/html.

Also, make sure the checkbox next to Navigator is checked in the Handled By section, and then select OK. You may need to reboot your machine to make Netscape accept these changes.

■ **Making Nice With Netscape.** Error messages can be frustrating, but remember that they're not insurmountable. The trick to overcoming them is to educate your self. Netscape constantly works to eliminate and solve error messages. You can prevent error messages by consistently downloading patches and the most recent versions of Netscape. Additional support is available from Netscape and several other sources at:

- Netscape 6 Windows Newsgroup at news://secnews.netscape.com/netscape.netscape6.windows
- Netscape 6.0 Release Notes at <http://www.netscape.com/eng/mozilla/ns6/relnotes/6.0.html>
- Scott's Unofficial Netscape 6 FAQ at <http://homepages.together.net/~chroma/ns6faq.html>
- Netscape Unofficial FAQ at <http://www.ufaq.org>

by Monique I. Cuxelier

15

America Online

Surfing & E-mailing Over Internet Barriers



Although America Online claims that the easiest is getting even easier, AOL users occasionally can have their share of problems with error messages. Along with a few problems logging on, users may have trouble with e-mail and GPF (general protection fault) errors.

Here, we detail many of the error messages you may encounter while using AOL. And because AOL is an online service provider, you will also run into the same generic Internet error messages associated with modem connections as you would with any browser or online service provider. For solutions to these types of errors, see "General Internet Error Messages" and "Connections" in this issue. Moreover, because AOL uses Microsoft Internet Explorer as its underlying browser (with the AOL interface, of course), you may also want to see the "Internet Explorer" article in this issue.

■ **Problems Connecting.** It's not uncommon for AOL to bump off users who have

been inactive for a period of time. However, nothing is more annoying than being bumped off an online service when you are active and in the middle of an interesting chat session. Discover where to go and what options to check when you lose your connection to the service.

*** Error Message:** "Your connection has been lost."

Translation: You've been disconnected from the online service. This can happen occasionally while you are online, regardless if you are active or not.

Solution: This could be happening for a variety of reasons, but it most likely involves your telephone line and its physical connection. Do you have call waiting? If a call "beeps in," it can disconnect you from the online service. You can turn off call waiting by going to the Sign On window while offline. Click Setup and then Expert Setup. Next, tick the access phone number you use and click Edit. Place a check mark in the checkbox next to Dial *70 To

Disable Call Waiting (or rather than *70, use the access numbers for your phone service). Click OK and then Close.

Now you can attempt to sign on to the service again without the danger of being disconnected by a call waiting call. Another problem may be that someone has picked up another telephone extension in your home. If this might be the case, exit AOL and attempt to sign on again.

If the solutions we provided so far don't resolve the problem, the cause might be your modem. Click Setup through the Sign On screen and click Add Modem. AOL will attempt to detect your modem for you. This may redirect your connection more appropriately to your modem. Alternatively, you may want to check your modem manufacturer's Web site to determine if you have the most updated driver for your modem. Another alternative is to select another access phone number from the list through the Sign On window and Setup. Your modem may be experiencing problems connecting to the number you are using.

Sometimes telephone lines with too much line noise can cause interference with connections and disrupt signals. Make sure your computer and/or modem is not next to any electrical devices that can cause interference, such as stereo speakers or a fan. Next, check that it's not a device connected between your modem and telephone that's causing the interference. Disconnect any fax devices, multifunction machines, or answering machines that rest between your telephone jack and your computer. Plug the telephone cord directly into the telephone jack to test the connection. If there still appears to be line noise, there may be something wrong with the actual telephone cord. Try connecting through a different cord without any splitters (or other such devices). Finally, if none of these suggestions work, contact your telephone company.

There is another possibility, however. Maybe the problem is with your computer. Are you using all of your system's resources by running several applications at once? Shut down other applications, especially any online applications that might interfere with modem usage.

*** Error Message:** "Session has expired/timed out"

Translation: The service occasionally sets limits for how long it takes to perform some tasks. This happens for security reasons and to

prevent you from waiting forever on a task that has quit responding with your system.

Solution: Exit the application. Or, if it's taking too long to download your photos from You've Got Pictures, close this feature. Then attempt to reopen the application or feature and try again.

If you continue to have problems when downloading something over the Internet, you can attempt to clean out your temporary files to make your system act more efficiently. Click the Start button on the Desktop, select Settings, and then click Control Panel. Double-click the Internet Options icon and then locate the Temporary Internet Files section of this window under the General tab. Click the Delete Files button to get rid of temporary files the computer is storing in its temporary memory. This will not delete important files that you need. Click OK. Now you should be able to download just a little faster to make it past the time out error message.

■ **It's Not In The Mail.** One of AOL's most popular features is its e-mail. But sooner or later, you're bound to run into one of the following messages when you send or receive e-mail. Fortunately, these messages usually have an easy solution.

✱ **Error Message:** "User's mailbox is full"

Translation: Your message was returned, but it wasn't because there was any problem with it; AOL returned it because the recipient (who may or may not be an AOL user) has so much mail in his mailbox that it can't accept your message.

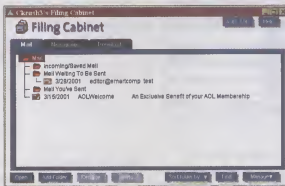
Solution: If the recipient has another e-mail address, try sending the message there instead. Otherwise, you'll have no alternative but to try sending it again later. With AOL e-mail accounts, users can hold up to 1,000 new messages, 550 old mail messages, and 550 sent messages per screen name.

✱ **Error Message:** "Sorry, e-mail is unavailable at this time"

Translation: Because of some constraints on the AOL system, it temporarily stopped its e-mail delivery service. AOL periodically performs self-maintenance tasks or upgrades its services, and during this time, it cannot process messages. However, these times are generally brief and are often scheduled during

the wee hours of the morning, when there isn't much traffic.

Solution: Click the Send Later button to save the message in a Mail Waiting To Be Sent folder of your Filing Cabinet. You can sign on again in 15 minutes to an hour and try to send the message again. Just click the drop-down menu next to Mail and select Mail Waiting To Be Sent from the list. Select the message to



When America Online e-mail is down, opt to delay your mail with the Send Later button. You can see the messages waiting to be sent in the Filing Cabinet (via the Mail menu).

send and click Send. Or, if you decide to leave the message in the Mail Waiting To Be Sent folder until the next time you log onto the service, AOL will remind you that you have messages to send and ask if you want to send them at that time.

Alternatively, you can tell AOL to send these messages automatically when it's possible to do so again. Just click the Auto AOL message after you click the Send Later button. Then, if necessary, click the appropriate button to have AOL walk you through the process. That way, you can easily select what messages and files to send and receive (and for which screen names). Remember to go back and click the appropriate button to schedule what days and when to run Automatic AOL. Keep in mind, however, that you will need to have the AOL software running at the time to operate Automatic AOL. If you are signed on at the time it is scheduled to run, Automatic AOL will only work with the screen name you are currently using.

✱ **Error Message:** "Sorry, Internet e-mail cannot be sent at this time"

Translation: You can send messages to other AOL users, but you can't send a message to someone else over the Internet at this time. AOL Internet mail is routed through an AOL Internet mail gateway. This part of the

service may be experiencing an update or some problem that prevents it from processing "outside" mail.

Solution: Click the Send Later button to save the message in the Mail Waiting To Be Sent folder of your Filing Cabinet. As we mentioned in the previous error message's solution, you can sign on again in 15 minutes to an hour and try to send the message again. In addition, you can use the same alternative options we also mentioned in the previous solution.

✱ **Error Message:** "Temporarily unable to list mail"

Translation: Because of some short-term restriction on the AOL service, it can't currently list your e-mail messages. Frequently, this is because the service is performing a service upgrade or some type of self-maintenance task. AOL generally schedules these tasks during low-usage times.

Solution: Check your mail again in a few minutes. Or, if you want the service to check your mail for you, you can take advantage of the Automatic AOL service.

✱ **Error Message:** "This file could not be sent"

Translation: The file that you attached to your e-mail didn't transmit with the message. For some reason, AOL sent the body of the e-mail, but it did not send the file that you attached to the message.

Solution: The file you tried to send by attaching it to your e-mail message was probably open in some other application on your computer. For example, if you were attempting to send a letter you created in Microsoft Word, you probably still have that document open in a Word window on your Desktop. Close the document and the application (after saving changes), re-create the e-mail message, and attach the document again. This time it should transmit with everything intact.

✱ **Error Message:** "This is not a known member"

Translation: The user you are attempting to send a message to on AOL is not an AOL member. AOL does not recognize the recipient's screen name.

Solution: Chances are, you probably misspelled the name of the recipient. You can search the AOL People Directory to find the correct spelling. Click the drop-down menu

next to People and select the People Directory option from the list. You can search for a person by name, or click the Advanced Search tab to look for a member according to hobbies, occupation, or location. Then click the Search button. Of course, this will only help you if the user has created an entry in the People Directory. Not everyone is automatically listed.

You can also try the Internet White Pages. Click the drop-down menu next to People and select the White Pages option. Enter the person's first and last name, and then click Find. For more accuracy, you can also enter the person's city and state. If you find that the e-mail account no longer exists, perhaps because it was closed, you'll have no choice but to contact your friend by telephone or in person and ask what their new e-mail address is.

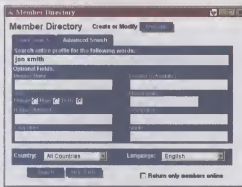
*** Error Message:** "E-mail not available" or "No longer accessible"

Translation: Your e-mail message is listed within your mailbox, but you can't read the body of the message. After you read a message, AOL keeps the message for only three days. Plus, the service only keeps messages that you don't read for 27 days after they were sent. Listings for these "timed-out" messages may still appear at times in your box, but technically, they've been deleted from the AOL servers.

Solution: There's not much you can do if you wait more than three days to save a message you've read or if you don't read a message for 27 days. These messages are gone. In the future, you can save messages you want to keep once you read them by saving them to your personal filing cabinet. When you're in your mailbox, click the Save To Filing Cabinet button. Then select one of the folders provided (Mail, Mail You've Sent) or create your own folder. To access the message again, click the drop-down menu next to the Mail command and select Filing Cabinet. You'll see a list of all your folders and the messages saved

there. Here, you can select the messages you want to read.

■ General Problems. It can take a lifetime to discover all the nooks and crannies of the AOL service because of the numerous built-in features. With all this functionality, it's not surprising that you might run into an occasional snag.



Even though you can use America Online's Member Directory to search for a username you may have misspelled, not all AOL members created entries for the Directory.

Download Manager. Generally, this problem is with AOL or the file at the other end and not with your computer.

Solution: The file at the other end may be missing and not available. Or, the file may be corrupt, and therefore, you can't download it. In this case, all you can do is attempt to download the file at another time when the problem is fixed or another version of the file is available. You can also let the site that offers the download know that there is a problem with the file by e-mailing its Webmaster.

*** Error Message:**

"Automatic AOL cancelled" or "Automatic AOL disconnected"

Translation:

You may get either of these messages if the Automatic AOL feature did not start properly or was not able to finish transmitting messages. Automatic AOL is a feature found under the Mail section that allows you to tell AOL to download any new messages and files or send new messages and files at a specific date and time. You can also set it to work on an hourly basis.

Solution: In order for Automatic AOL to work, you must have the AOL software running. In addition, if you are currently connected to AOL, Automatic AOL will only work for the screen name you are currently using.

If Automatic AOL was not able to transfer all of your messages, it probably was interrupted in the middle of its operation. Perhaps you forgot to turn off call waiting or someone accidentally picked up another phone extension in your home and broke your connection. (See the solution for "Your connection to the AOL service has been lost" for information about turning off call waiting.) To prevent this from happening again, set up Automatic AOL to work during the early morning hours (before dawn) when no one else needs to use the phone.

*** Error Message:**

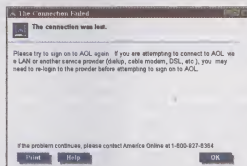
"Download manager won't accept files"

Translation:

When attempting to download a file from the Internet, you can't download a file to AOL's

■ GPF Errors. The dreaded GPF error means that your program is trying to do something it can't complete or is trying to access something it can't gain access to. Generally, this means you will need to close your application and restart the computer. However, if these errors continue, read on to find out their causes and some possible solutions you can try.

*** Error Message:** "AOLMAN.AOL at 0002:56D; AOLMAN.AOL at 0002:6938; AOLMAN.AOL 0003:E0F3; AOLMAN.AOL at 0003:E83A; AOLMAN.AOL at 0003:E84D; AOLMAN.AOL at 0003:8236; AOLMAN.AOL at 0004:00D0; SUPER-SUB.DLL at 0005:02F1; SUPER-SUB.DLL at 0009:00D7; and SUPER-SUB.DLL at 0011:0BBB;"



It's not unusual to lose your connection to America Online. The cause can be a break in your connection, your modem, or even your telephone line.

online forms; low hard drive space; or corrupt AOL software.

Solution: If the problem is that a form you are attempting to print online has become corrupt, there's little you can do except to contact technical support at AOL to report the problem. You also can send AOL

an e-mail message through its Customer Service section.

On the other hand, the source of the problem might be that you didn't have enough hard drive space when you attempted to download some graphics or other large files. Attempt to make room on your hard drive by deleting unnecessary files.

Another method AOL suggests is to purge your cache, which is a bank of memory that is set aside by the computer for frequently used data that it wants to access more quickly. In version 6.0, click the drop-down menu next to Settings, and select the Preferences option. Next, click the Internet Properties (WWW) option. In the window that opens, click the General tab and find the Temporary Internet Files section. Click the Delete Files button to clean out the cache and free some memory. Then click OK.

You can also "compact" your Filing Cabinet where you keep your e-mail. Open the Filing Cabinet by clicking the drop-down menu next to Mail, and select Filing Cabinet. Then, click the Manage button at the bottom of the Filing Cabinet and select Compact.

If you continue to receive any of these GPF messages, your last resort may be to reinstall the AOL software. The software may have become corrupt. Keep in mind, however, that you should properly uninstall AOL through the Add/Remove Programs feature that Windows provides. If you don't want to lose any of your files while doing this, save the files in your AOL download directory or filing cabinet directory to your hard drive. Also, try to update to the most current version of AOL. Some of these GPF error messages date back to version 3.0.

*** Error Message:** "SUPERSUB.DLL at 000A:008B; SUPERSUB.DLL at 0011:0A5C, and SUPERSUB.DLL at 0011:0A58;"

Translation: This is a GPF error that is caused by your video driver, corrupt online forms, or corrupt AOL software.

Solution: If the problem is the video driver, which is the software that tells your computer how to work with your video card, you should make sure you have the most current video driver by contacting your video card manufacturer or checking its Web site. AOL suggests that you also try to switch to the standard VGA (Video Graphics Array) or SVGA (Super Video Graphics Array) drivers for Windows.

If the problem is that a form you were attempting to print online has become corrupt, there's little you can do except to contact technical support at AOL to report

the problem.

If you continue to receive any similar GPF messages, your last resort may be to reinstall the AOL software. As we mentioned in the solution for the previous error messages, the software might be corrupt. If this is the case, your only choice is to save your files elsewhere, use Add/Remove Programs to uninstall the AOL software, and install the most current version of AOL.

■ Find Additional Help. With all the new versions of software that AOL continues to release, new error messages are bound to arise. Don't hesitate to look for additional help, though. Start by going to the Help menu at the top of the AOL window and clicking AOL Help (or look for a Help button in any window within the interface). In AOL Help, you can Search for a specific word or phrase, as well as look for help in a variety of categories, ranging from e-mail to personal finance.

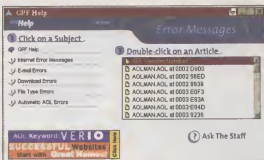
You might even use a Keyword to find help. For example, click the Keyword button, type GPF in the Keyword field, and press the Go button. AOL opens an entire window dedicated to GPF errors, along with several other types of error messages. You can also locate how to fix them here. In addition, you can type Help Community in the Keyword field and click Go to find support from other AOL members. There are bulletin boards and articles about problems online. You can even

access a live help chat. Alternatively, try using Keyword: AOL Questions to find the top FAQs (frequently asked questions) in several categories.

If you have a question that you want a technical support person to help you answer, visit Customer Service. You can reach it through the Keyword feature by typing Customer Service in its field and clicking Go. Here, you can send AOL an e-mail message or get live online help for technical questions or billing information. Be sure that you write down the exact error message text and know specifically what version of Windows and AOL software you are using. To check your AOL software version, go to the Help menu and select About America Online. To find out what version of Windows you're using, right-click My Computer on your Desktop and select Properties from the pop-up menu.

Finally, you can always call for help. The toll-free number for support is (800) 427-6218. Plus, you can contact one of the Member Services representatives for help 24 hours a day, seven days a week. See the "Member Services Toll-Free Numbers" sidebar to find the appropriate phone number for your situation. Be prepared to wait on hold for quite awhile. It's best to call late at night, when the lines are not as busy. **[E]**

by Cindy Krushenitsky



Use Keyword: GPF to locate information about common general protection fault errors, as well as many other error messages.

Member Services Toll-Free Numbers

AOL Technical Support
(for Windows version)
(888) 346-3704

Screen Name Or Password Problems
(888) 265-8004

Access Numbers
(888) 265-8005

Billing Inquiries
(888) 265-8003

Account Cancellation
(888) 265-8008

Outlook

Keep Mail Flowing With These Outlook & Outlook Express Fixes



Microsoft's e-mail programs, Outlook and Outlook Express, have established themselves as the standard e-mail tools despite gaping security holes that have led to the infamous "I Love You" and "Anna Kournikova" viruses (among others). Yet even with these holes—to be fair, Microsoft has released patches to deal with these problems as they arise—Outlook and Outlook Express remain robust tools for managing e-mail, while Outlook also includes sophisticated scheduling and contact management. As with any Windows program, you're going to run into problems, and the error messages are not always easy to decipher or understand. This article covers Outlook and Outlook Express error messages, their causes, and their possible solutions. For the most part, these errors relate to Outlook 2000 and Outlook Express 5.0, but they often apply to other versions as well.

■ **Connection Errors.** Perhaps the most common errors you will encounter when using either Outlook or Outlook Express are connec-

tion errors where the program reports that there is a problem connecting with the Mail server. These error messages can baffle the most seasoned user.

✱ **Error Message:** Outlook or Outlook Express displays the Mail Login dialog box along with the message: "Please enter your user name and password for the following server."

Translation: This is fairly difficult to translate because in most cases, it displays the user information you store in your Outlook or Outlook Express account profile. It could mean that you changed the username or password inadvertently or that the server is simply not responding and instead of giving you a clear error, Outlook or Outlook Express displays this dialog box instead.

Solution: If you are certain that your logon information is correct, it probably means the server you are trying to connect to is not responding. If you are not sure about the logon information, click Tools from the menu bar and, select Accounts. The Internet Accounts

dialog box opens. Click the appropriate account (for most users, there will probably be only one or two), and click the Properties button; the Properties dialog box for the chosen account opens. Click the Server tab and check the information in the Mail Server section where your account name and password are listed. The password is hidden by asterisks for security purposes. You could try entering this information again in case it was somehow changed, but enter the information carefully. If you make a mistake typing the password, you won't be able to access your e-mail again until you realize there is a problem. If you aren't sure if it is a problem with your logon information or with the e-mail server, call your ISP's (Internet service provider's) technical support (or your Information Systems department if you are inside a company). They can let you know if the server is experiencing problems or give you instructions on how to change your logon information.

✱ **Error Message:** Outlook or Outlook Express tries to retrieve your e-mail but has trouble connecting to your e-mail server and displays the message: "Some errors occurred while processing the requested tasks. Please review the list of errors below for more details." Click the Details button so that you can see the exact wording of the error. If there is a connection error, the Details will read: "The connection to the server has failed. Account 'account name' server 'pop.servername.com,' Protocol POP3, port 110, secure (SSL); no socket error: 1060, error number: 0x800CCOE." The exact wording of each error will vary according to your account and server name.

Translation: In all likelihood your e-mail server is not functioning. The ISP (or internal computer department) has brought the server down for maintenance. Perhaps the server has gone down because of other problems, or there is a problem with the connection.

Solution: There is really nothing you can do but wait and keep trying. If the problem persists for a long time, you may want to call your ISP (or internal computer department) and find out if there is a problem. You can usually tell if it is a connection problem by trying to access the World Wide Web using your browser. If you can access the Web, then you can assume the connection is fine, and the problem lies with the server. Some ISPs offer network status reports on their Web sites. You can check the Network Status page on the Web

Outlook and Outlook Express remain robust tools for managing e-mail, while Outlook also includes *sophisticated scheduling* and contact management.

site to see if the ISP knows about the problem and is working to fix it. If not, give your provider a call and find out if it is a known problem. In most cases, the problem is on the server side and not with your PC, and you have to wait for its resolution.

* Error Message:

While using Outlook Express, you get the error: "An error occurred while establishing a dial-up networking connection." After clicking OK to close the error, you may be able to, in fact, connect to your e-mail server successfully.

Translation: According to Microsoft, this happens when you have Outlook Express set to Send And Receive Messages At Startup in the General tab of the Options dialog box (which can be found in the Tools menu), and your modem properties have not been set for Wait For Dial Tone Before Dialing in the Connection tab of the Modem Properties dialog box.

Solution: You have to either set Outlook Express so it doesn't send or receive messages at startup or set your modem properties so it waits for a tone before dialing.

To remove the Send And Receive Messages At Startup command, click Tools from the menu and then Options, which brings up the Options dialog box. In the General tab, click the Send And Receive Messages At Startup checkbox to remove the check, then click OK to save the change.

If you wish to keep the option to Send And Receive At Startup, you can adjust your Modem Properties to resolve the problem. Click the Start button, point at Settings, click Control Panel, and double-click Modems. In the Modem Properties dialog box, find the modem for your computer in the list of modems (usually there is only one). Click the Properties button, and the Properties dialog box for the chosen modem opens. Click the Connection tab. If a check mark doesn't appear next to Wait For Dial Tone Before Dialing in the Call Preferences section, check the box. Click OK to exit and save your changes.

In either case, this should resolve the problem.

■ Errors Sending/Receiving E-mail.

You can run into a number of errors when sending or receiving e-mail using Outlook or Outlook Express. These are often related to a missing sender or recipient name, but there are other possible issues.

* Error Message:

When attempting to send a message in Outlook Express, you generate the error: "This message

could not be sent. You must specify some recipients for the message."

Translation: You forgot to enter a recipient for this e-mail in the To box in the New Message form.

Solution: Simply enter an e-mail address and click Send. The error message should not appear again.

* Error Message: You are attempting to download messages from Outlook Express and you get the following error: "An attempt to allocate memory failed. The system is out of memory."

Translation: It may be logical to assume from this error that you are having a memory issue, but actually Outlook Express has detected that there is not enough hard drive space to download all the available messages.

Solution: You need to free up some hard drive space by off-loading or deleting some data files from the hard drive or uninstalling program files. If you need to remove files, you should use the Windows Remove Program feature. Click the

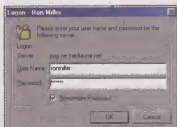
Start button, point at Settings, and open Control Panel. Double-click Add/Remove Programs. Scroll through the list of programs and click one you wish to remove. Click the Add/Remove button and follow the prompts to remove the program. You can continue to remove programs in this fashion.

Another way to free up space is to remove some Windows components. To do this, click the Windows Setup tab in the Add/Remove Program Properties dialog box. Windows reviews your configuration and displays the options you currently have installed. To remove a component, click the component's checkbox to remove the check mark. If you only want to remove part of a component, click the component's name, click the Details button, and click the box next to each subcomponent that you wish to remove. As you do this, Windows displays the amount of space you will free up based on your selections. When you are finished selecting components to remove, click OK and follow the prompts.

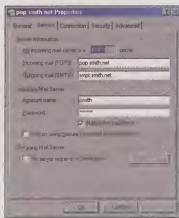
* Error Message: While using Outlook Express, you get the error message: "No sender specified."

Translation: Your sender name is set in the Accounts option when you establish your account, and this information does not change. It is more likely that your account information has become corrupted in the Windows Registry (the software where Windows stores all program and operating system settings).

Solution: The good news is that you can fix this problem without opening the Registry Editor. Instead, click Tools from the menu, select Accounts, and the Internet Accounts dialog box opens. Click the account in question and click the Properties button to open the Properties dialog box for the chosen account. In the User Information section in the General tab, delete your name and e-mail address, enter them



Sometimes the Logon dialog box appears when Outlook or Outlook Express is having trouble contacting your e-mail server.



Check your account information, including your server information, username, and password, in the Account Properties dialog box.

again, and click OK. Click Close to close the Internet Accounts dialog box and try sending another message. If the problem persists, try deleting the account, but before you do, make sure you note the information in each tab for your account configuration. Once you are sure you have all the information written down, select the problematic account and click the Remove button. Finally add the account again by clicking the Add button and selecting Mail from the list. The Internet Connection wizard opens. Follow the onscreen prompts (using the information that you wrote down earlier) to add the account.

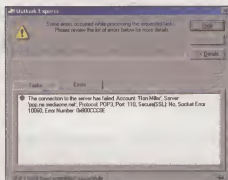
■ **General Stability Issues.** If you use a Windows program, you run into several common error types, such as Fatal Exception Errors. This section outlines several such errors you could encounter when using Outlook and Outlook Express.

✱ **Error Message:** When running Outlook 2000, you generate the error: "A fatal exception error 06 has occurred."

Translation: Fatal Exception errors happen for lots of reasons, but according to Microsoft, this one happens when you are using Windows Graphics Acceleration in conjunction with Outlook 2000.

Solution: Turn off Windows Graphics Acceleration by clicking the Start button, pointing at Settings, clicking Control Panel, and opening System. In the System Properties dialog box, click the Performance tab, and click the Graphics button in the Advanced Settings section at the bottom of the tab. Drag the Hardware Accelerator slider from its current position to None on the far left of the slider. Click OK to close, and click Yes to the prompt to restart your computer. When you return to Windows and restart Outlook 2000, the problem should be resolved.

✱ **Error Message:** While starting Outlook 2000, you get the error: "Outlook.exe caused an 'access violation'



If you are having trouble connecting to the e-mail server, you get a message like this one.

fault in module Riched20.dll At 014f4802bc95" or "Outlook caused an invalid page fault in Riched20.dll." When you click OK to continue, Outlook fails to start.

Translation: There is a problem with the file Riched20.dll.

Solution: You need to run the Office Repair function to fix the corrupt file Riched20.dll. Begin by finding the current copy of Riched20.dll on your computer. Click the Start button and then Find. Select Files or Folders and the Find: All Files dialog box opens. Type Riched20.dll in the Named box and click Find Now. When Windows locates the file, right-click it and select Rename from the shortcut menu. Rename the file from Riched20.dll to Riched20.old.

Next, insert your Microsoft Office CD into your CD-ROM drive. If the Setup program does not start automatically, double-click My Computer and the My Computer dialog opens with a list of all the drives (and other peripherals) you can access from this computer. Right-click the icon for the CD-ROM drive where you have inserted the Office CD and select Open. Double-click Setup.exe, and the Office Setup window opens. Click the Repair Office button and click the Repair Errors With My Office Installation option. Office guides you through the repair process. When completed, a new copy of Riched20.dll will be installed on your machine, and you should no longer receive the error.

✱ **Error Message:** When starting Outlook Express, you get the following error message: "This program has performed an illegal operation. If the problem persists, contact the program vendor." If you click OK to continue, Outlook Express may start, but you may generate additional error messages and may have trouble displaying folders in the Folders pane.

Translation: Microsoft reports that you see this error when attributes in the Outlook Express mail database files (*.dbx) have been set to "Read Only."

Solution: Click the Start button, click Find, select Files or Folders, and the Find: All Files dialog box opens. Enter *.dbx in the Named box, and click Find Now. Windows lists all the .dbx files at the bottom of the dialog box. Right-click the first file, and select Properties; the Properties dialog box for the chosen file opens. Check the Attributes section at the bottom of the tab and make sure Read-only is not check marked. If it is, click the check mark once to remove it. Only the Archive checkbox should have a check in it. Click OK to save your changes and repeat for each .dbx file.

■ **Keep Your E-mail Flowing.** As with any software, you are bound to run into problems from time to time when using Outlook 2000 or Outlook Express 5.0, but if you take a few moments to analyze the problem and try to come up with a solution, you should be back to work in no time. If you encounter a specific problem not outlined in this article, go the Microsoft Knowledge Base at <http://support.microsoft.com/support/kb>. Select your version of Outlook or Outlook Express from the My Search Is About drop-down menu, leave the Search By defaults (unless you want to change them), type in your question, and click Go. You can often find a resolution to your problem within the results. [E]

by Ron Miller

If you take a few moments to analyze the problem and try to come up with a solution, you should be back to work in no time.

Eudora

Mail Program Runs Best When You Take Care Of It



Available for free, in a sponsored mode, or for purchase, Qualcomm Eudora is one of the more popular e-mail programs available on the Internet today. While free, Eudora Light contains far fewer features than its purchasable counterpart, Eudora Professional (Pro). Sponsored mode sits somewhere in the middle and displays advertising each time you use the program. The full version does not. Users download all versions from <http://www.eudora.com/products/eudora/download>.

You will run into difficulties with Eudora periodically, as with any other application. These errors range from problems with the software, conflicts, and servers being down. We will deal with a few of the more common difficulties and how to overcome them, along with solutions for more involved difficulties.

One common problem affects both Eudora Light and Eudora Pro's three primary mailboxes: In, Out, and Trash. The Mailbox Size Display, located in the lower left corner of the message summary of each mailbox window, contains three numbers: the number of messages in the mailbox, the size of those

messages, and the size of messages deleted but not yet compacted, respectively.

The middle and third numbers added together equal the size of any given mailbox. It is critical to keep the combination of these numbers to less than 1 MB. If any one of these become quite large, say 10 MB or more, it can cause Eudora to crash. Allowing all three mailboxes to remain large subjects the user to problems with crashes, lockups, and possible file corruption.

Transfer any mail you want to save to any mailbox other than these three. To transfer messages from one mailbox to another, select the message(s) you want to transfer. Choose a mailbox from the Transfer menu or right-click the selection and choose a mailbox from the Transfer submenu. Once you have cleared out the mailboxes, go to the Special menu and choose Compact Mailboxes for all messages.

Eudora Light

*** Error Message:** The program crashes or the error "Invalid page fault" appears.

Translation: Your system may have multiple copies of the Mfc42.dll (dynamic-link library) file, creating the above difficulties, or your system may be low on resources.

Solution: Usually, the problem lies with the Mfc42.dll file. Your system may contain multiple copies of Mfc42.dll files or low resources are available. Click on the details button and check to see where the error occurred.

Click the Start button, point at find, and choose Files Or Folders. Type Mfc42.dll to find all the copies of the file. If you find multiple files, find the most current one (look at the Modified date) and see that the file is placed in the C:\WINDOWS\SYSTEM\ directory. With all the other Mfc42.dll files, you can rename them as Mfc42.old, Mfc42.ol2, and so forth.

Multiple files can find their way onto your computer when you load new software. Occasionally, a program will load an Mfc42.dll file in addition to the one you already have.

* Error Message: "503, Need RCPT"

Translation: A message queued in your Outbox has one of three problems: The To: and Bcc: fields are empty. One or the other must contain a valid e-mail address or nickname; a message in the To: field has a nickname that doesn't point to an address; your mailbox Nicknames might not have addresses in the address files.

Solution: A blank nickname/address book entry caused this error. See to it that a valid address is associated with all nickname/address book entries.

* Error Message: "Corrupt mailbox table of contents (TOC)."

Translation: The Table of Contents Mailbox file has become corrupted and needs to be rebuilt before you can access your e-mail.

Solution: Before you can open the mailbox in question, Eudora needs to rebuild the Table of Contents. While you won't lose e-mail, message status information may be lost. If you did not compact the mailbox after deleting messages, previously deleted messages may reappear. You will also need to open your Eudora directory. Find the Eudora directory in the hard drive. This path could be different on a computer with multiple hard drives but should be located at C:\PROGRAM FILES\QUALCOMM\EUDORA. Find the Table of Contents for the corrupted mailbox and delete it. (NOTE: If this error happens regularly, you may need to have your PC checked for possible problems. You need to have your computer

directory or hard drive examined for errors or possible file corruption. Reinstalling the program will not solve the problem.)

* Error Message: "Maildrop locked."

Translation: The Maildrop lock file on the server has not timed out yet. In roughly 10 minutes, it will remove the lock file, and you will be able to check for your e-mail.

Solution: The process of checking for new e-mail causes your system to crash and may also happen with new e-mail checks, one after the other. The best solution is to wait ten minutes and then check your e-mail. This isn't a random occurrence. Most servers have an idle timeout setting that will remove the lock file after a while of no activity. After that period of time, it will unlock. Then you can connect again.

* Error Message: "Password incorrect."

Translation: This results from entering your password incorrectly. It can also be the result of incorrect settings within Eudora.

Solution: In the Tools menu, select Options. Click Getting Started from the Category list and see if your settings are correct.

Eudora Pro

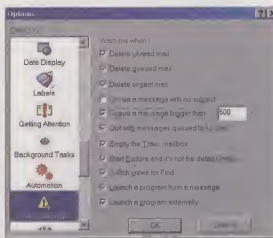
* Error Message: "Maildrop lock busy"

Translation: Similar to the Maildrop Locked error, this takes place when your PC has hung and there has been no message to the server to quit the session. Therefore, it thinks you are still connected. Wait for the idle timeout to occur (roughly 10 minutes) and then connect again.

Solution: When your PC hangs during a mail check, and you are endeavoring to reconnect with the mail server, this message often appears. When your PC hangs, it doesn't get to send the Quit command to the server, the server thinks you are still connected, and it locks up, even though you are not connected anymore. It's like having a phone conversation and the person you are speaking with is suddenly silent. You think you are still connected but are not sure. After a while, a dial tone kicks in, letting you know that you've been disconnected, or you realize the person is no longer there and you hang up. Then the lines are open again.

* Error Message: "503: Need RCPT (Recipient)"

Translation: You have forgotten to include an e-mail address in the To: field of the outgoing message.



You can pick and choose what abnormalities you want Eudora to warn you about.

Solution: In order for a message to be delivered, you must include a recipient in the To: field of the outgoing message.

■ Other Warnings, Errors & Limitations.

In this next section, we include a number of other errors you might encounter, ranging from intermediate to more serious difficulties and how to fix them.

* Error Message: "This message is rather large (around X...K in size after encoding). Queue it anyway?"

Translation: The file is too big. Eudora has a default setting that comes into play when you want to attach and send large files (anything over 500K).

Solution: To give yourself a wider margin before receiving this message, increase this size limit or turn the option off. In the Tools menu, click Options. Click the Extra Warnings icon under Category. From here, you can specify a larger setting or turn the option off where it reads Queue A Message Bigger Than xK.

The file size you are ultimately able to send will depend on your service provider. Check with it for file transfer options.

* Error Message: Eudora 5.x crashes upon exiting.

Solution: Reopen Eudora. Press both CTRL and SHIFT and open Options in the Tools Menu. You will receive the prompt to

reset your settings. Click Yes. Eudora will rename the existing Eudora.ini settings file to Eudora.sav. Next, launch Eudora and see if the problems continue.

If the problems do continue, delete the folder Eudpriv from the Eudora directory.

With continuing trip-ups, go to the Eudora directory, find the Plug-ins directory, and rename it OldPlugins. Next, launch Eudora and try to send a message. If the message goes through, one of your plug-ins has caused the crash. Try to isolate the problematic plug-in by reintroducing them. Using the Windows Explorer or from the My Computer icon on the desktop, navigate to the Eudora directory. From the Oldplugins folder, move plug-ins, one at a time, into the original directory. Once you have isolated the problematic plug-in, it will need to be replaced.

* Error Message: "Could Not Open Attachment..."

Translation: This message appears and announces that Eudora couldn't open an attachment when trying to send mail.

Solution: A message in your Out mailbox where there is an attachment that is no longer available in the directory from where the attachment originated causes the problem. What has happened is that the path you have specified to the attached file is not correct. The file has been moved from its original directory or has been deleted. To fix the problem, either edit the message to remove the attachment, change the attachment path so the file can be located for sending, or cancel the sending and delete the message.

For more advanced errors, Eudora offers help on its Web site at <http://www.eudora.com/techsupport>. On the Technical Support page, scroll down to the heading Eudora Product Support KnowledgeBase, select what program for which you need help, and in the Search For text box type some keywords to find help for your error.

Another Web site to check is at <http://www.cit.cornell.edu/helpdesk/wimba/email>. If you wish to post your questions in newsgroups, a good source is comp.mail.eudora.ms-windows. Some of the information presented in these sites and forums can go into great detail if necessary. [E]

by Nathan Segal

Word

Practical Solutions For Common Word Worries

The more you use Microsoft Word 2000, the more you appreciate its features.

This latest version of the word processor has tools to increase productivity without sacrificing ease of use. Word is not only versatile in its functions as a robust text editor, but also in its image-editing, page layout, and Web page design features. However, like all software, it's not perfect. When error messages pop up, productivity plummets. Below are a few of the most common error messages you may encounter and the solutions to get you back to work as soon as possible.

■ Setup Snafus. Occasionally, Word's features are unavailable. Error messages might display when you try to access a feature or program files won't work after you install a patch or update because a later file version is also required. Below are setup-related errors.

*** Error Message:** "The selected Assistant character is not available. This feature is not currently installed. Would you like to install it now?"

Translation: The default setup setting for many Word features is Install On First Use, which means instead of installing a particular feature at setup and making it available by default, Word doesn't install it. This message signifies the selected feature is unavailable but you can install it.

Solution: Click Yes. Insert the installation CD and Word searches for needed files to install the feature. When the CD-ROM drive's indicator light powers off, click OK. The installation completes when the files are located.

*** Error Message:** "The feature you are trying to use is on a CD-ROM or other removable disk that is not available. Insert the XX disk and click OK." (XX represents the disc Word wants you to insert, such as the Microsoft Office 2000 SR-1 Premium disc.)

Translation: The feature you're trying to use isn't installed. Word prompts you to insert the setup CD, but you have inserted the wrong CD. Word can't locate the correct file to install the feature. This error identifies the correct CD to insert.

Solution: Insert the correct CD, wait for the drive to spin, and when the drive indicator light goes off, click OK.

*** Error Message:** "There was a problem starting the Office Assistant. Would you like to try reinstalling it?"

Translation: If this message appears when you try to start Word, click Yes. This message may display, "The Office Assistant could not be started. Please repair the Assistant by running Office 2000 setup and selecting 'Repair Office 2000.'" This problem occurs if an outdated version of the Oleaut32.dll file is installed.

Solution: Click Close. If Word doesn't close, click the Help menu and click Detect And Repair. Click the Start button in the Detect And Repair dialog. Word asks for the installation CD. Insert it. Setup replaces the outdated Oleaut32.dll with a current version from the CD. If Word closes when the file is replaced, click the Start button, Settings, and Control Panel. Double-click Add/Remove

Programs, and double-click Word or Office XX (XX is the Office version you're using). Click Repair, Reinstall, And Finish. Insert the installation CD. If an error message displays during the fix process, click Ignore to proceed.

■ Mismanaged Files. Word 2000 generally operates without mishap. However, it may stop responding or quit unexpectedly during normal use, such as when you try to save an open document. Below are solutions to common file management errors.

*** Error Message:** "Cannot locate Microsoft Conversion Library (Msconv97.dll)."

Translation: If you try to open a document in Word created by another application, Word might alert you that it can't locate Msconv97.dll. This occurs when Msconv97.dll can't be found in the Text Converters folder (usually at C:\PROGRAM FILES\COMMON FILES\MICROSOFT SHARED\Textconv). This error may also happen when opening WordPerfect documents in Word.

Solution: Click OK to close the error message. Click Word's Help menu. Click Detect And Repair and Start. Detect And Repair will install the missing file after you insert the installation CD.



*** Error Message:** "There is not enough memory or disk space to complete the operation." or "There is insufficient memory or disk space. Close extra windows and save your work." or "This program has performed an illegal operation and will be shut down. If this problem persists, contact the program vendor." (NOTE: If you click the error's Details button, Word displays the following alert: "WINWORD caused an invalid page fault in module WINWORD.EXE.")

Translation: These messages may appear when there isn't enough drive space for Word to save a document that's open. If there are several applications or files open simultaneously, the Windows swap file (Win386.swp) increases in size. The swap file is a temporary storage file on your hard drive designed to emulate physical RAM. Windows uses the file when there's no more physical RAM available. If the swap file consumes most or all of the available hard drive space, there's no place to save the Word document. You may also get this error message if you run older versions of some antivirus software.

Solution: You can add another hard drive to your system or install, run the DriveSpace 3 disk compression utility (bundled with Windows) to free up space, or turn off antivirus software. A short-term solution to recover space is closing programs you're not using, deleting unnecessary files, and emptying the Recycle Bin.

■ **The (Un)Printed Word.** If you can't print what you want when you want to, Word's versatility as a word processor is about as useful as a rainstorm at a baseball game. Solutions to rectify common print error messages are below.

*** Error Message:** "This is not a valid print range."

Translation: This error can occur if you specify the wrong section number in a Word document that has multiple sections, making it impossible for Word to determine what page in which section you want to print.

Solution: Specify both the page (or range of pages) and the section number containing the pages to print. Click the File menu

and Print. In the Page Range section, type the following syntax in the Pages box: `p <pagenumber>s<sectionnumber>-<pagenumber>s<sectionnumber>` with `pagenumber` being the pages to print and `sectionnumber` being the sections where the pages are located. To print pages in non-adjacent sections, use the following syntax in the Pages box, using a comma to separate each print range: `p<pagenumber>s<sectionnumber>-<pagenumber>s<sectionnumber>, p<pagenumber>s<sectionnumber>-p<pagenumber>s<sectionnumber>` with `pagenumber` being the pages you want to print and `sectionnumber` being the sections where the pages are located.

*** Error Message:** "Word cannot print. There is no printer installed."

Translation: This error appears if a default printer driver isn't installed or the printer driver is damaged and needs to be reinstalled. If there's a conflict on LPT1 (the printer port), you may see this message: "Did you recently install a new device and configure it to use LPT1?"

Solution: Try reinstalling the default printer driver. Click the Start button, Settings, and Printers. A checkmarked device indicates the device is set up as the default printer. If there isn't a default printer, right-click the icon of the printer you want to use as the default and click Set As Default from the context menu. If the printer you want to use as the default isn't installed, launch the Add Printer Wizard to install it. Double-click Add Printer and follow the instructions. You will need to have the Windows installation CD, a printer driver diskette, or the

printer vendor's installation CD to complete the default printer setup.

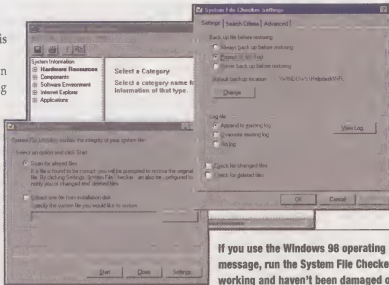
If the Printers dialog shows a default printer but you still get the error message, the driver could be damaged. Right-click the icon of the default printer and click Delete. Windows will inquire if it should remove extra files left on your hard drive after it deletes the driver. Click Yes. Double-click Add Printer and follow the instructions to reinstall the printer driver. Again, you'll need the installation CD, printer driver diskette, or vendor's installation CD.

If the problem persists, the Windows printer subsystem files may be damaged. Windows 98 users can run the System File Checker applet to verify the system files are working. If the File Checker locates a damaged system file, it will reinstall a working version. To do this, click the Start button, Programs, Accessories, System Tools, and System Information. Click the Tools menu and click System File Checker. Click the radio button next to Scan For Altered Files. Click Settings. Select the desired configuration, click OK and Start. If an alert appears indicating File Checker has located altered files, follow the instructions to reinstall the file.

To track down device conflicts on the printer port, right-click My Computer and click Properties. Click the Device Manager tab (in Windows 2000, click the Hardware tab and then the Device Manager button). Click the plus sign (+) next to Ports (COM & LPT) and double-click the port used by your installed printer. If the Device status box on the General tab of the Properties dialog indicates a problem, click OK and then Remove to delete the printer port. Click OK and restart your computer. Windows may automatically

detect an uninstalled LPT1 port at Startup and try to install it. If not, click the Start button, Settings, and Control Panel. Then double-click Add New Hardware and let Windows detect the new hardware.

■ **Getting Graphic.** A picture can be worth a thousand words, if you're able to insert it into Word, that is. For assistance with common graphics-related error messages, follow the troubleshooting tips below.



If you use the Windows 98 operating system and encounter a printer error message, run the System File Checker to verify that system files are working and haven't been damaged or altered.

*** Error Message:** "Microsoft Word can't import this graphic. The feature is not currently installed. Would you like to install it now?"

Translation: The image you're trying to import is in a format Word can't handle.

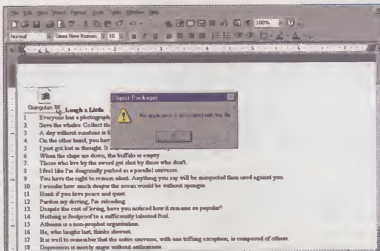
Solution: Click Yes to install an import filter. Insert the requested Word or Office CD. When the CD-ROM drive light goes off, click OK. Setup installs the missing import filter.

*** Error Message:** "No application is associated with this file."

Translation: This error may appear if you try to open a graphic or object linked to the Word document so you can edit it in the application in which the graphic was created. However, Word doesn't know which application to launch to edit the graphic.

Solution: Right-click the Start button and then click Open. Click View and then Folder Options. In the dialog, click the File Types tab. Click New Type. Enter a description for the file type you want to associate to the graphic and enter a three-letter extension for the file type in the Extension field. All files associated with this three-letter file name extension will use the icon and commands defined for this file type. If the File Types dialog produces an alert indicating the extension is already in use by another file type, click OK and Cancel. Scroll the list of Registered File Types and click the file type that caused the conflict and click Remove. Click New Type. Enter a description and associated extension for the new file type and select a content type (file type) from the Content Type drop-down list. Below the Actions window, click New. Enter a description for the action, such as Open. Click the Browse button, navigate to the application that will perform the action, click the application to select it, and click OK. If necessary, click Change Icon to associate a different icon with the file type. Click OK. Now, when you double-click the linked image file in an open Word document, the application associated with that image opens, enabling you to edit it.

*** Error Message:** "An error occurred while importing this file, XX (where XX identifies the file)." or "Word cannot



if you insert an image into Word but an application isn't associated with it, you must associate the image with an application in order to open it and edit it within Word. You can do this by using the Files Type utility.

display this picture format because the correct graphics filter was not found."

Translation: At setup, several graphics filters are installed by default, such as TIFF, BMP, GIF, and JPEG. Others, like PCX, are installed upon first use by default. The messages above inform you that the graphics filter that's necessary to convert the graphic isn't installed. Word needs the graphics filter for the image type you want to import into the open document.

Solution: Click OK and close Word. Click the Start button, Settings, and Control Panel. Double-click Add/Remove Programs and then click the Install/Uninstall tab. Click Microsoft Word 2000 or Microsoft Office 2000 on the list of installed programs and click the Add/Remove button. You may have to insert the installation CD first. Setup launches. Click Add Or Remove Features. The Update Features screen displays. Click the plus sign next to Converters And Filters. Click the plus sign next to Graphic Filters. Click the filter you need to install and choose Run From My Computer. Click Update Now. Setup installs the necessary filter.

■ Design Difficulties. Word is no Adobe PageMaker or Quark XPress, but it does have several timesaving desktop publishing features that offer built-in support for character styles, user-configured spacing before and after paragraphs, and numerous text-wrap options. Some Word errors associated with page layout functions are described below.

*** Error Message:** "This style name already exists or is reserved for a built-in style."

Translation: This error indicates you have attempted to assign either a style name that is in use by another style or a style name used by a default built-in style.

Solution: Click Format and then Style. After returning to the Style dialog box, rename the problem style and click OK.

■ Internet Incidences. Word 2000 is equipped with several Internet-related features, such as Web page editing abilities and URL (uniform resource locator) access directly from within an open document. Sometimes, however, error messages pop up when you try to use these features.

*** Error Message:** "Unable to open https://XX (where XX refers to the Web server you want to access). A security problem has occurred." or "Unable to open https:// XX/file name (where file name is the file you want to open). A security problem has occurred."

Translation: Word isn't the culprit for this error message. It actually results when the hyperlink you want to access points to a secure Web server that requires certificates and the Internet Explorer version you use hasn't accessed the secured Web server yet requiring the user certificates. It can also occur if you've emptied Internet Explorer's Temporary Internet Files and History folders, and thereby removed evidence Internet Explorer has already visited this secure Web server.

Solution: Get around these error messages by closing Word, launching Internet Explorer, entering the URL for the secured Web server, and pressing ENTER. When Internet Explorer prompts you for a user certificate, click the user certificate issued to you by the Web site's administrator. If the administrator hasn't issued a user certificate, contact the administrator to get one. After Internet Explorer displays the secured Web site, close the browser and launch Word. Open the document containing the link to the secured site. You can now connect to the secured Web site from within Word.

*** Error Message:** "Microsoft Word caused an invalid page fault in module

SHDOCVW.DLL at address 014f71528dd." or "Microsoft Word caused an invalid page fault in module GDI32.DLL at address 014f:bff349d9." or "Microsoft Word caused an invalid page fault in module KERNEL32.DLL at address 014f:bff786a6."

Translation: When you try to access a Web feature in Word and Internet Explorer is installed, one of these error messages may appear if a cache (temporary storage) file in the Temporary Internet Files folder (usually at C:\WINDOWS\TEMPORARY INTERNET FILES) is damaged. The messages may also appear if the History folder (C:\WINDOWS\HISTORY) folder is damaged, or if the index files used to track the contents of items in the History or cache folders are damaged.

Solution: Try emptying the History and Temporary Internet Files folders. Right-click the Internet Explorer icon on the Desktop. Click the General tab in the Internet Explorer Properties dialog that appears. In the Temporary Internet Files section, click Delete Files. The Delete Files dialog appears, inquiring whether to Delete All Files In The Temporary Internet Files Folder. Click OK. In the History section, click Clear History. The Internet Options dialog appears, inquiring whether to Delete All Items In Your History Folder. Click OK. Launch Word. If the problem persists, you must delete and register the Temporary Internet Files folder again. Close Internet Explorer if it's running. Click the Start button, Programs, and MS-DOS Prompt. At the prompt, type `deltree "c:\windows\Temporary internet files"` and press ENTER. Windows inquires if you want to delete the C:\WINDOWS\TEMPORARY INTERNET FILES directory and its subdirectories. Press Y and then ENTER. Type exit at the prompt and press ENTER. You should now be returned to the Desktop. Click the Start button, then click Run. Type `regsvr32 cachevu.dll` in the Open: field of the Run dialog box and press ENTER to register the deleted Temporary Internet Files folder, then click OK.

■ General Operation

Errors. Some error messages are mere electronic hiccups resulting from typos or misplaced documents. Other error

messages result if you try to use a feature you haven't installed.

*** Error Message:** "The password is incorrect. Word cannot overwrite the document."

Translation: This can occur if you type an incorrect password when trying to open a password-protected document. Word will deny access. Because Word displays an asterisk (*) for each password character you type, you can't verify the characters you have entered.

Solution: Try entering the password again. Passwords are case sensitive; make sure your keyboard's CAPS LOCK light isn't lit. If Word doesn't accept the password, you're probably out of luck. If you do enter the correct password, you can remove it by clicking Tools and then Options. Click the Save tab in the Options dialog, then delete the asterisks in the Password To Open box. Click OK. Save the document and the document should no longer be password protected.

*** Error Message:** "Word cannot find the spelling file Mspell3.dll or Msp232.dll for English US." or "Word cannot find the spelling file <filename> for <language>" (with filename being the name of the spelling file Word can't locate and language being the language for which the problem occurs).

Translation: This error message appears if you click Spelling And Grammar from the Tools menu and either the proofing tools in Word

2000 or the proofing tools for the particular language needed aren't installed.

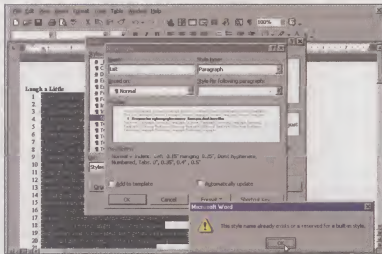
Solution: Run Word or Office Setup in Maintenance Mode and install the proofing tools. To launch Maintenance mode, close Word and click the Start button, Settings, and Control Panel. Double-click Add/Remove Programs. Select Microsoft Word or Microsoft Office 2000 and click Add/Remove. The Word or Office 2000 Maintenance Mode dialog displays. Click Add Or Remove Features. Click the plus sign to the left of Office Tools. Click Proofing Tools. Click Run from My Computer, Run All from My Computer, or Installed On First Use, and then click Update Now. Do the same for Proofing Tools for the particular language that caused the problem initially.

If you need to run a spell check for languages other than English, Spanish, or French, you must purchase the Microsoft Office 2000 Proofing Tools CD, which contains the fonts, localized templates, spell checkers, and grammar checkers for other languages. You can get the CD from a licensed reseller by requesting Microsoft Office Proofing Tools (CD assy: X03-80950; SKU 053-00200). The CD isn't available from Microsoft. Corporate users can purchase five or more copies from Microsoft (800/426-9400) for about \$57 a copy. Consumers can get a single non-Microsoft Proofing Tools CD copy from WorldLanguage.com, (<http://www.worldlanguage.com>; 800/900-8803) for about \$79, or a Proofing Tools CD from Alki Software (<http://www.proofing.com>; 206/286-2600; 800/669-9673) for about \$80.

■ Word Is The Word.

Microsoft Word is designed for work and more work. Its features contain tools that turn tedious word processing chores into child's play. Occasionally, however, you may experience error messages. Don't let these messages prevent you from completing your work. The solutions above should help get you back on task in no time. **LS**

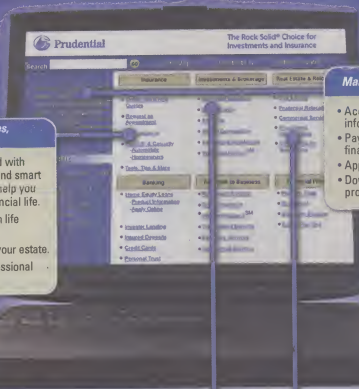
by Carol S. Holzberg, Ph.D.



Every style that you create in Word must be assigned a unique name. If you try to use a style that already exists or a style that has been assigned as a default style, an error message is likely to appear.

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IFS-2000AD56103

Excel

Messages Help Identify Worksheet Problems



When your car starts making those strange knocking noises, you know it's time to haul it in to a mechanic for a checkup. It would be nice if you could also drop your Microsoft Excel troubleshooting errors off at the tech shop. Excel, compared to other software programs, has a bagful of cryptic messages. Because of the numerical and formula-driven nature of the program, Excel is especially prone to errors that can translate into major problems. Knowing the basic error messages and how to fix them helps you keep your worksheets as problem-free as possible.

■ **Errors In Formulas.** By far, the most common error messages you'll encounter in Excel relate to setting up formulas. With over 300 functions in the program (plus all those great user-defined formulas you can dream up), plenty can go awry.

If Excel doesn't know how to interpret your formulas, it displays an error value within the cell. These error values begin with a pound sign. Error values can be displayed in the cell for a variety of reasons: if you use text when a numeric value is called for, if you set up the formula incorrectly, or if you delete a cell referenced by the formula.

✱ **Error Message: "#####"** (a series of pound symbols that display in your cell instead of the cell contents.)

Translation: The column needs to be widened to display numerical contents of the cell. Instead of confusing you by showing some of the numbers, Excel displays pound symbols.

Solution: Increase the width of the column. Click the column heading to select the entire column and then choose Column from the Format menu. Clicking AutoFit Selection will widen the column. You can also double-click the right side of the border for the column heading.

Another way to work around this problem is to shrink the cell contents to fit in the cell. To do this, select the column and then choose Cells from the Format menu. Click the Alignment tab and then check the Shrink To Fit checkbox before clicking OK.

You can sometimes change the formatting for the cell so that the contents take up less room. For example, you can select the cell and then choose a smaller font on the Font Size drop-down list in the Toolbar. You can remove bold type by clicking the Bold button. Other shortcuts can be customized on the Toolbar.

✱ **Error Message: "#####"**

Translation: The cell contains a negative time or date. Date and time values must be positive if you're using the 1900 date system. By default, Excel for Windows supports the 1900 date system while Excel for Macintosh supports the 1904 date system. Both systems keep track internally of each date as a serial number. The difference between the systems lies in the starting and ending dates. The starting date for the 1900 date system is Jan. 1, 1900 (with a comparable serial number of that day of 1). The ending date for the 1900 date system is Dec. 31, 9999 (which has a serial value of 2958465 and which is a date we probably will never see). In contrast, the starting date for the 1904 system is Jan. 2, 1904 (with a serial value of 1) and ends with Dec. 31, 9999 (with a serial value of 2957003).

Solution: Check your formula to make sure you built it correctly—especially if subtracting time or dates. If the correct formula yields a negative result, use a format other than time or date for the cell. To do this, choose Cells from the Format menu and click

the Number tab. Choose the General or Number format.

Alternately, switch to the 1904 date system. To do this, choose Options from the Tools menu. Click the Calculation tab and check the 1904 Date System box before choosing OK.

* Error Message: "#N/A."

Translation: No value is available for the function.

Solution: You've left an argument out of a function. If Excel is clueless about how to evaluate a function (because of how you've set it up or omissions), it shows the #N/A error message. The HLOOKUP, VLOOKUP, LOOKUP, and MATCH functions commonly return the #N/A error when they can't find a match. Look at your function and correct your mistake.

* Error Message: "#Value!"

Translation: You've probably included the wrong data (or type of information) for a formula's argument (the variable part of a function).

Solution: Since Excel has so many functions, finding the exact cause of this error is a bit tricky because the specific solutions relate to various types of functions. For example, if cell A1 includes text and A2 includes a number, the formula =A1+A2 will return the #Value! error because it doesn't know how to interpret the data.

Your best bet is to select the cell with the error and then evaluate the arguments used for the formula. (Excel's Help is handy to assist you with this.) Check the validity of the cells referenced by the formula. You may have accidentally entered a range instead of a single value for the argument.

* Error Message: "#DIV/0!"

Translation: The formula is trying to divide by zero (or a blank cell). For example, if you enter the formula =15/0, Excel will display the error message. This error can come up if you run a macro that includes commands to divide by zero or blank cells.

Solution: Evaluate cell references in the formula (or macro) for blanks or zeros. To help you identify the location of the blank cell, click the cell with the error and choose Auditing from the Tools menu. Click Trace Error. The arrow will point from the source of the problem to the formula.

If necessary, change the divisor to something other than zero, or see if you have referred to a blank cell.

Finally, you can use the IF function to make the cell with the formula display nothing instead of the error value. For example, if A1 includes the dividend and A2 includes the divisor, use =IF(A2=0,"",A1/A2).

* Error Message: "#REF!"

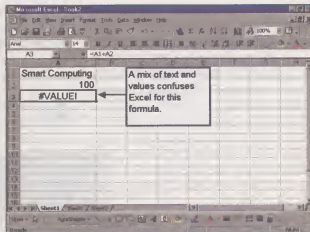
Translation: Excel can't locate the cell reference used in the formula because it is incorrect or invalid. The common causes for this problem stem from including the wrong cell reference in your formula or accidentally deleting contents for a cell that Excel is referencing.

Solution: Check your worksheet to see if you've accidentally deleted cells, rows, or columns used in the formula. Another possible cause in the case of linked worksheets is that you've deleted a worksheet or other external references originally used in the formula. Finally, you may have pasted or inserted other cells over the ones used in the function. To fix these problems, rewrite your formula.

* Error Message: "#NAME?"

Translation: Excel doesn't recognize the range name you've used in a cell.

Solution: You can assign a "plain English" name to a range of cells and then



Excel returns the #Value! error message if a function's arguments don't include the correct type of data.

use the name in formulas. For example, =SUM(Sales) is probably easier to remember than =SUM(A1:E300). If the #NAME? error message is displayed, verify that the name even exists in your workbook by choosing Name from the Insert menu. Click Define. In the Define Name window, look over the list of names to see if the one used in the cell has been created. It's also wise to check if you've typed the name correctly.

If necessary, you can assign a name by selecting the range to be named on your worksheet, typing the name in the Name Box and then pressing Enter.

* Error Message: "#NUM!"

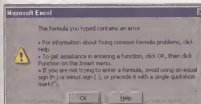
Translation: Some functions accept only numerical information. If you enter text (or numbers that are formatted as text), Excel displays this error.

Solution: Use numerical formatting for the function's arguments. To do this, select the cells (or cell ranges) used as function arguments, and then choose Cells from the Format menu. On the Number tab, choose a numerical format, such as General or Number, and then click OK.

*** Error Message:** After entering a formula, Excel displays a message box indicating that there's an error in your formula.

Translation: Excel expects you to follow certain rules when you set up formulas or functions, and you've broken one of them.

Solutions: There are actually many problems that might cause an error message box to display.



Excel alerts you to problems in your formula.

With over 300 functions in the program (plus all those great user-defined formulas you can dream up), plenty can go awry.

• **Do opening and closing parentheses match, and are each part of a pair?** You should verify that you enclosed the correct argument, function, or term within the parentheses. This is especially important when you develop complicated formulas that include many parentheses. Excel color-codes the parentheses for you so you can see that you have complete pairs of them. Verify that you have matching pairs of parentheses by selecting the formula cell and then clicking in the formula bar. Press the Right arrow key to move the insertion point. When the insertion point moves across one parenthesis of a pair, the opposing one is also highlighted.

• **Have you entered the required number of arguments?** Use the Function Wizard. Click in the formula cell and then choose Function from the Insert menu. The Function Wizard prompts you to enter the arguments in the proper order and even enters commas for you.

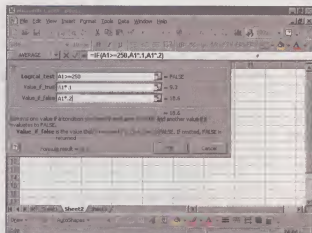
• **Use Excel's Auditing tools to troubleshoot problems with formulas.** To find the source of an error in a formula, click the cell with the error message and choose from the Tools menu Auditing and then Trace Error. An arrow will point to the errant cell. You can quickly determine which cells feed into a formula by selecting the cell with the formula and then choosing Trace Precedents from Auditing in the Tools menu.

• **Check for simple problems with the formula.** Improper syntax can foil the formula. Your formula will fail if you misspelled range names or accidentally added extra spaces, especially between the function's name and the opening parenthesis, or mistyped an address or range, which makes Excel read it as a name instead of a range. For example, if you forget to type the colon between range addresses, Excel may interpret your entry as a name (such as A5B8 instead of A5:B8). Since this range name doesn't exist on your worksheet, Excel displays the error message.

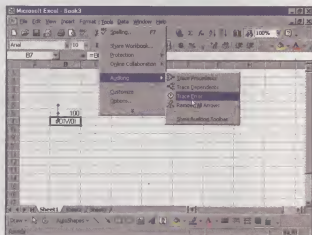
• **Get some help.** When the error message box displays, click Help to get tips and tricks for fixing the formula.

■ **General Usage Errors.** Of course, not all error messages in Excel relate to developing formulas. As you're working with the run-of-the-mill commands, you may encounter any of these common error messages.

✱ **Error Message:** "(File name) is locked for editing by [Username]" or



Use the Function Wizard to make sure you have the correct number and type of arguments.



Use Excel's Auditing tools to troubleshoot any problems you're having with your complex formulas.

"File in use." In this case, the file name is the name of the file you're trying to open and the username is the person who currently can both read and edit (write to) the file.

Translation: Another user has the file open (on a network), or the file is already open on your computer. In some cases, you've actually closed the file, but Excel thinks the file is still open. In general, you can only read, but not edit, files already in use.

Solution: See if the file is already open on your computer. Choose the Window menu to see if the file is listed. If you're sure that the file is not open on your computer (or anyone else's on the network), reboot the system and try reopening the file again. If all else fails, you can open the file as "read only" and then choose Save As from the File menu, saving the file using a different name.

✱ **Error Message:** "The file is not in a recognizable format" or "File format is not valid."

Translation: The file you're trying to open is not written using a format that Excel can understand.

Solution: You can sometimes view the information (albeit in a skewed form) by clicking OK in "The File Is Not In A Recognizable Format" box and then working through the pages of the Text Import Wizard. You can also try opening the file using its original application and then use the Save As command in the File menu to save the file in a compatible format, such as text format. After you've saved the file in a format understandable to Excel, reopen it and you're on your way.

✱ **Error Message:** "The trace precedents command (or 'The trace errors command') requires that the active cell contain a formula which includes valid references."

Translation: You're using the Trace Precedents command to identify the cells that "feed into" the cell with the formula. Excel cannot find the precedent cells if they are in a workbook that is not open.

Solution: See that the cells you're referencing are in a workbook that is open. Also verify that you've selected the cell that contains the error.

Take a few minutes to familiarize yourself with the most common types of errors in Excel. Keep this article handy for the next time you run into a problem, and you'll be up and running smoothly in no time. [E]

by Linda Bird

PowerPoint

Use These Fixes To Keep The Show On The Screen



Transparencies and note cards used to be de rigueur with speakers, but these days, orators can hardly get by without Microsoft PowerPoint 2000. This presentation software package allows people to make "slides," arrange ideas to submit to a group for review, or post presentations online to make a virtual lecture for remote viewers.

Proficiency with PowerPoint has become a necessary corporate survival skill, but it still sometimes leaves novices and experts alike in a lurch with a myriad of error messages. All computer programs can be expected to present some degree of trouble to users, so little hiccups should come as no surprise.

■ **Installing.** Installation brings the first batch of errors for PowerPoint, which are apt to appear when you install Microsoft Office, upgrade to a newer version of PowerPoint, or install add-ons. Most of the messages you receive, however, have clear origins.

point at Settings, and open Control Panel. Double-click Add/Remove Programs. In the Properties dialog box, click Microsoft Office 2000 Installation and click Add/Remove Programs. When the Maintenance Mode dialog box opens, click Add Or Remove Features. Click the Microsoft PowerPoint For Windows plus sign (+) and choose the icon for the Pack And Go Wizard. Select Run From My Computer, and click Update Now. Office 2000 automatically reinstalls the damaged components, including Pack And Go.

★ **Error Message:** "PowerPoint couldn't open the Visual Basic for Applications (VBA) project in presentation C:\Program Files\Microsoft Office\Office\ppmusic.ppa."

Translation: An incompatibility glitch between PowerPoint 97 and 2000 causes the error. The 97 version of Custom Soundtrack doesn't work with 2000. When you install the newer version over the older and try to open a VBA project, you'll see this message.

★ **Error Message:** "PowerPoint couldn't find Pngsetup.ex_. You should run Setup and reinstall."

Translation: When you're trying to send your presentation to Pack And Go using the wizard and you click Finish, this message might appear. The wizard is looking for the Pngsetup.ex_ file in a certain folder but can't see it.

Solution: Reinstall the Pack And Go wizard to whack it back into shape. Close all your programs and then click the Start button,

Solution: Download the updated version of Custom Soundtrack from the Microsoft Web site, <http://download.microsoft.com/download/powerpoint97win95/Utility/1/WIN98/EN-US/pp2kmus.exe>. Find the original by clicking the Start button, pointing at Find, and selecting Files Or Folders. Type Ppmusic.ppa (the old Custom Soundtrack file) into the Named box and click Find Now. Write down the path that leads to the file. Go to the Pp2kmus.exe file you downloaded earlier and double-click it to open. It will ask you to find the folder where the old Ppmusic.ppa file is. Once you've navigated to it, click OK. The new file writes over the old Ppmusic.ppa file.

★ **Error Message:** "PowerPoint found an error we could not correct."

Translation: While installing the RnR PPTools add-ins for Microsoft PowerPoint 2000, or immediately after, the message appears. It means that PowerPoint gets hung up trying to install the add-in.

Solution: Microsoft knows about this inherent problem, so it has created a patch that fixes it in the latest service pack. The easiest way to install the patch is to use the Auto Update Catalog, located at <http://officeupdate.microsoft.com/ouv3/catalog.htm>. When you go to this Web page, a small application automatically launches and scans your computer to see what service pack updates you need. Check the boxes next to the Critical Updates, and you'll be guided through the process of installing them.

■ **Printing Perils.** Printing creates the biggest headache for PowerPoint users. Sometimes the problems stem from the massive files the program makes, and sometimes PowerPoint has trouble reading the printer and its driver.

★ **Error Message:** "The printer isn't responding. Ensure that the printer is online and connected, or select a new printer," "The printer xx does not exist or is unavailable," or "There is a problem with this printer's setup."

Translation: Something is preventing PowerPoint from connecting properly with the printer. Maybe the printer is off or out of paper, the settings or driver are corrupted, or a file you're sending through is too large. In the error message, xx is the name of your printer.

Solution: Make sure the printer is on, plugged in, connected, and free of jams. Try to print again. Also check the printer queue to see if you're not waiting behind several other documents waiting to print. Do this by clicking the Start button, pointing at Settings, and clicking Printers. Find the icon for your printer and double-click it. If you see files in the print queue, postpone printing your PowerPoint document until they feed out, or delete them and try again. You also can turn off the printer and turn it on again, which clears the memory and sometimes jogs it back into use.

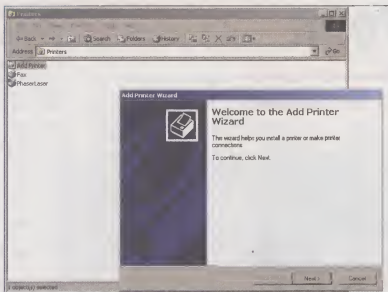
If you're still having trouble and you're printing a large slide, the printer is probably timing out before the document goes through. In this case, increase the timeout to several hundred seconds. Every printer handles this separately, so check the Help files for details on how to extend this time.

You might also reset the Regional Settings or Options, as they sometimes become corrupted and will clog up printing jobs. Reset them by clicking the Start button, pointing at Settings, and opening Control Panel. Double-click Regional Settings/Options. Click the Regional Settings tab, choose a different setting from the drop-down menu, and click OK. Restart your computer, and when it comes up again, go back into the Regional Settings window and choose the original setting. Restart the computer once more to finish.

Finally, if these methods fail, reinstall the printer driver. Go to the Start menu, choose Settings, and click Printers. Right-click the default printer and choose Delete. Next, double-click Add Printer and follow the on-screen directions to add the same printer driver.

*** Error Message:** "PowerPoint cannot print to xx. It is not a valid printer type," or "The printer name, device driver, or port for this print job were not specified or are invalid."

Translation: Where xx is the name of your printer, this message could mean your printer isn't set up, the Registry is damaged, or a printer driver is corrupted.



You may need to add a new printer to your computer before PowerPoint can detect it.

Solution: Set up your printer as if you haven't done so already. Add a new printer by clicking the Start button, pointing at Settings, and clicking Printers. Double-click Add Printer and follow the on-screen instructions to add your printer. You may also receive this message if the Registry isn't reading the default printer correctly. Reset it by going to the same Printers window, setting another printer as the default, and then setting the original printer as default again.

Otherwise, the printer driver may be damaged. Right-click your default printer in the Printers window and select Delete. Double-click Add Printer and follow the on-screen instructions to reinstall your printer driver.

*** Error Message:** "The printer is currently busy or the printer queue is full. Please try to print again at a later time."

Translation: PowerPoint can't reach the printer because the document you're sending is too big or corrupted, the regional settings are corrupted, the printer port might need to be captured, the printer has an invalid network name, or the printer driver is corrupted.

Solution: Follow the instructions given earlier in this article to clear the print queue, reinstall the printer driver, and reset the Regional Settings. If that doesn't solve the problem, you'll have to capture a port for your network printer. Go to the Printers folder, right-click your printer, and choose Properties. Click Capture Printer Port in the Details tab. In the Device box, choose a port that isn't being used by another printer. Now, in the Path area, type in the path to the

printer, and click OK. In the Print To The Following Port area, choose the port you selected, and click OK.

*** Error Message:** "There is no printer installed."

Translation: You may see this message if the printer is indeed not installed, but most likely something has happened to the file Win.ini (initialization), causing PowerPoint to not see the printer. Win.ini contains configuration information for your computer system.

Solution: Correct the printer driver's entry in the Win.ini file. Click the Start button,

point at Find, and click Files Or Folders. Type Win.ini and choose your hard drive letter from the drop-down menu (C: is most common), making sure to check the Include Subfolders box. Click Find Now. Check the Size column for the Win.ini file. If it's larger than 64KB, it has been filled with duplicate entries and is too big. Slim down the file by double-clicking the file to open it in Notepad. Scan it for repetitions, deleting any you find. Save it and try to print again.

If you're using Windows 95 or 98 and you're still receiving this error message, create a new Win.ini file. Follow the directions above to find the Win.ini file on your hard drive. Right-click it, choose Rename, and type Win.old. Now grab your Win95/98 CD-ROM and insert it in the computer. When Run Setup Again? appears, click Restore Windows Files That Are Changed Or Corrupted and then follow the on-screen directions.

This message also appears if the program can't see your printer driver. If all else fails, reinstall the printer driver.

■ Broadcasting Breakdown. PowerPoint's Online Broadcasting has tremendous potential. This feature, which uses NetShow to allow communication between people around the globe, could save time and effort by making in-person meetings unnecessary. But the functionality is glitchy at best and contains a high probability of error messages.

*** Error Message:** "xx is not a shared directory. A shared directory should be in the form of \\servername\sharename,"

or "You cannot use an internet address here. Enter a path that points to a location on your computer or on the network."

Translation: The xx represents a valid Web address, and anything not in standard form (without the http://) won't register with Online Broadcasting.

Solution: Be sure that all Web addresses you enter follow the standard naming convention, which often means inserting "http://" at the beginning of an address.

*** Error Message:** "Failed to connect to the NetShow client DLL. Make sure it's registered correctly."

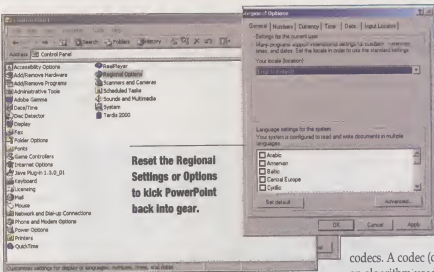
Translation: When starting an online broadcast, the Windows registry fails to read one of two files: Nslite.dll or Nslsvps.dll.

Solution: PowerPoint has a built-in solution for this obstacle, which is, thankfully, easy to execute. Go to the PowerPoint Help menu and choose Detect And Repair. The program will automatically find and fix the troublesome files.

■ Inserting Objects. PowerPoint sometimes has trouble with embedding foreign objects, such as charts or movies. Error messages will result from size constraints or simply a few stray bugs that were, upon release, never ironed out.

*** Error Message:** "There is insufficient memory. Save the document now." "Cannot start the source application for this object," or "Unable to open file. You may be out of memory or disk space. Check disk space, close other applications, then try again. Press F1 for Help."

Translation: Oddly, this message doesn't have much to do with inserting organization charts, although that's when you'll see it. Rather, the problem lies with the number of fonts installed on your machine.



Reset the Regional Settings or Options to kick PowerPoint back into gear.

Solution: Do you have more than 600 fonts? If so, remove some of them, a few at a time. When you've taken them out, restart Windows and then open Organization Chart, which you can find by going to the Insert menu in PowerPoint, pointing to Picture, and clicking Organization Chart. Keep reducing fonts until the function works. As you're removing fonts, mind that you don't take out the following: Arial, Courier New, Marlett, Symbol, Times New Roman, Tahoma, and WingDings. Other Office programs need these fonts.

If you don't have many fonts installed on your computer and you're still receiving this message, the problem might be with a couple files called Msoprefr.232 and Msodisp.232. These preference files store data and settings for Organization Chart. Use Find Files Or Folders to locate the files, which are located in your Windows directory, delete them, and restart

Organization Chart. It will automatically re-create the files, sans corruption.

*** Error Message:** "PowerPoint couldn't insert movie from the selected file. Either the file is non-standard or QuickTime is not installed properly."

Translation: PowerPoint has trouble with QuickTime movies that are compressed using certain

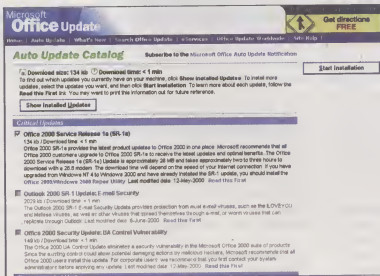
codes. A codec (compressor/decompressor) is an algorithm used to record and compact digital video or audio. In this case, PowerPoint cannot read that algorithm.

Solution: Create a hyperlink from your program to the file instead of embedding it in the PowerPoint presentation. Do this by choosing Hyperlink from the Insert menu. In the Link To section, pick Existing File Or Web Page. Use the Browse button to find the file you want to play and click OK.

If it's imperative that you embed the movie into your presentation, convert the QuickTime movies into AVI format, which PowerPoint can handle adeptly. Start QuickTime Pro and open the file that you want to convert. Under the File menu, choose Export and set the file type to Movie To AVI. Click the Options button and choose Settings. Now choose a compressor from the list there, such as Cinepak. Ensure the file extension reads .AVI and then click Save.

Microsoft has put together a few tools to help you figure out other error messages. Download the Microsoft Office 2000 Customizable Alerts from the Microsoft Office Update Web site, <http://officeupdate.microsoft.com/2000/download.Details/alerts.htm>. It provides instructions for the most common and difficult problems that occur with PowerPoint and other Office programs. Follow the directions on that Web page to download and install the alerts. Taking advantage of resources like these is your best defense against the threat of error messages. [E]

by Monique I. Cuzler



Take advantage of Auto Update Catalog. It automatically checks your system to see if you need service packs or patches.

Access

Save Your Databases From Intrusive Conflicts



Access, Microsoft's database product for personal computers, is the most time-consuming of all the Office suite applications when it comes to its learning curve. And that's understandable because databases, by definition, have multiple structures that interact with each other. It often takes time to learn how this interaction relates to data outcomes and when friction can arise.

So, it's not surprising that this program generates more error messages—and often more frustrating ones—than any Microsoft product (except for the Windows operating system, of course). Below we cover a range of error messages, from those referring to the simplest data entry mistakes, on up through some that only

advanced users are likely to encounter. The errors we describe are for both the 97 and 2000 versions of Access.

■ **Data Entry Mistakes.** Your database may have data types, validation rules, or input masks attached to fields in tables to force users to put in data of a certain kind to ensure consistency and accuracy. Here are some examples of these and other common data entry mistakes and the error messages they generate.

★ **Error Message:** “The field XX cannot contain a Null value because the Required property for this field is set to True. Enter a value in this field.”

Translation: You can't skip field XX (with XX representing the actual name of the field); something must be entered here.

Solution: Put in an acceptable value (which might be “yes” or “no”; or in a number field, “0” will suffice). Another common action that generates this message is when you start to type something in the field and realize you're not ready to complete the record, but because you have data in other fields in that record, you try to save the form, and that's when Access demands that you put something in this required field. Your only option at this point is to either finish the record or exit it without saving the changes (such as the data you already entered).

★ **Error Message:** “The value you entered isn't valid for this field.”

Translation: This is fairly self-explanatory: You weren't paying attention to what you typed. For example, you may have typed text in a numeric field or entered a number that is larger than the field size setting permits.

Solution: Take another look at your entry, and if it's still not clear what Access expects, check the design of the table into which you're entering data (regardless of whether you're entering data directly into the table or through a form based on it). In Design View, look at the data type for that field.

■ **Ghosts Of Objects Past.** References to no-longer-present objects or errant characters can make Access think such an object once existed and cause strange behavior and error messages.

★ **Error Message:** “Microsoft Access can't find the macro XX”

Translation: You weren't looking for any such macro (with XX representing the actual name), but Access thinks it needs to find it; and you probably don't remember using, much less creating, any such macro. There could be characters, even just spaces, that shouldn't be there in a field's Properties dialog box (to see such a box, right-click in Design view on any field; the box shows what the field does, the source of its data, and information about its formatting).

Solution: Your job is to find the event where errant text has been left, and this can require some hunting if that text was the result of accidental keystrokes. Start with the Properties dialog box for controls in objects you remember recently redesigning; be sure to

search both in fields you remember changing, as well as those close to it where you might have accidentally typed an incorrect entry. If this fails, you'll have no choice but to search through all other objects.

*** Error Message:** "The form name XX is misspelled or refers to a form that doesn't exist."

Translation: This is another one of those messages that will puzzle you because you either don't remember any such form or thought that no other objects depended upon the form when you deleted it.

Solution: Check the Macro tab in the database window (the screen you see when your database first opens if you have no splash screen or switchboard) to see if there's a leftover macro related to that old or altered form. Then, check to see if any other macros display code that refers to an absent form or to an incorrectly spelled form.

■ Common Query Errors. To correctly ask Access a question, you often have to type something in the criteria row of the query design grid. Doing this requires using the proper syntax (the appropriate characters and symbols). But just because Access understands your question, that doesn't mean it's the most suitable one you should ask. Here are some of the most common syntax errors.

*** Error Message:** "Data type mismatch in criteria expression"

Translation: You asked Access to look for text in a number field, a number in a date field, or something similar. Or perhaps you tried to use a wildcard, but chose the wrong one.

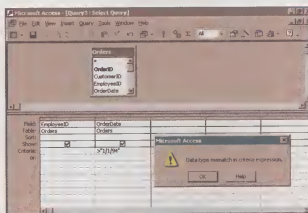
Solution: Check the data type of that field in the table the query is based on to correct the error. For the appropriate wildcard, check the Help menu. In the Contents tab, look below Working With Queries, Using Criteria And Expressions. Then, in the Index, search for either criteria or expressions.

*** Error Message:** "The In operator you entered requires parentheses."

Translation: You were looking for all records that, in a given field, contained one of a set of values (for instance, in the City field, you wanted either Pittsburgh or Philadelphia). You tried to use the expression

"In(value1, value2, value3)," where value1 and the rest are the values you're seeking. But without the parentheses, Access doesn't know what to do with the "In" part of the expression.

Solution: Add the parentheses where they are required. Or, if the list is no longer than 12



The syntax of criteria expressions in query designs is crucial. To avoid error messages and mistakes, make sure you use the correct surrounding characters, wildcards, or operators.

values, rather than enter an "In(value1, value2, value3)" expression in one criteria row, use multiple criteria rows. To do this, type the first value you're looking for in the first row, type the second value in the next row, etc.

■ Problems With Advanced Queries. If your query design involves more than one table, they must be linked. This can lead to errors if the linked fields aren't the same data type.

*** Error Message:** "Type mismatch"

Translation: You tried to establish a relationship between two fields in the relationship window or in a query design. But you tried to link fields with different data types, or you tried to include a type of field (such as memo, OLE Object, or hyperlink) that can't be part of the relationship. If two fields that normally should be the same data type (for example, both should be date fields) aren't, maybe you didn't design your tables correctly. Or maybe you have a database with tables imported from various sources. For instance, this could create a problem if you downloaded text files from a main-frame database with fields of text, but in your database, you made them date fields instead.

Solution: Check the data types in the underlying tables. In rare occasions, you may be able to link the tables through some other fields that

do match. Then again, you may have no choice but to change the data type of one of the fields. Be careful when doing so because this could lead to additional error messages.

*** Error Message:** "To create a crosstab query, you must specify one or more Row Heading(s) options, one Column Heading option, and one Value option." (There are similar messages to this that warn users about individual problems with each of these three options.)

Translation: A crosstab query (which produces a table similar in structure to Excel's Pivot Table) requires at least three fields: one to serve as the Column Heading, another as the Row Heading, and another to produce the value in a cell that intersects those headings. That value will be the result of a calculation, which typically involves counting, adding, or averaging the two criteria (such as: How many orders were placed by Employee X in Year Y?).

Solution: Click inside the Total row, which by default shows the value Group By for all, and make one field the Column Heading, one (or more) the Row Heading, and one the actual value. If you're not sure which should be which, draw a diagram (with pen and paper) of what you'd like the resulting table to look like and try to picture which fields are best suited for each part of the table.

*** Error Message:** "Too many crosstab column headers (XX)"

Translation: You have too many distinct values in the field you designated as the column heading, especially when you use a date field, which typically has hundreds of different values. The XX in the above message refers to the number of column headings you ended up with. A crosstab query is designed to give you a compact, easy-to-read table, and instead, you have hundreds of columns spilling across several pages.

Solution: Group the records. Think about why you created a crosstab query in the first place. Basically, you're trying to lay out the results in a clearly readable fashion and too much detail runs counter to that goal. The tendency for beginners in a select query is to just plow every field into the query design rather than only those that are necessary. Users should avoid this tendency even more with crosstab queries.

With a date field, for instance, type Expr1: "Quarter" & " " & Format(Date), "q" in the field name row for that field. This does two things: one, it groups the dates by quarter; and two, it formats the resulting column headings to look like "Quarter 1," "Quarter 2," etc.

■ **Corrupted & Poorly Compiled Databases.** Ever try to open a database or an object within it and fail? The error messages associated with these events are not nearly as clear. This is partly because the causes are more complex. Databases are, after all, the most heavily structured files you're likely to deal with, and interactions between their structures and those of your operating system are much more sensitive than those for a word processing file.

So, knowing how delicate your databases are, plan them out carefully, back them up religiously, compact and repair them regularly (and carefully by following instructions), and train all database users thoroughly.

✱ **Error Message:** "The database XX needs to be repaired or isn't a Microsoft Access database file. You may have quit Microsoft Access unexpectedly with the database open. To repair the database, click the Repair Database command on the Tools menu." or "XX isn't an index in this table. Look in the Indexes collection of the TableDef object to determine the valid index names." or "Unrecognized database format XX" or "Can't open database XX" or "Unexpected error 35012" or "Not a valid bookmark"

Translation: These error messages indicate that your database or an object(s) within it (with XX representing the actual name) are damaged and/or corrupted. The most common reasons for this problem are network problems, deterioration through ordinary but heavy use, and quitting the program improperly, especially while a table was being reindexed.

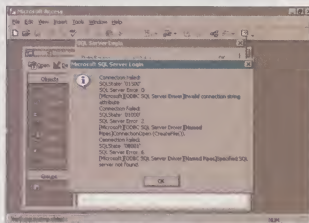
Solution: For future reference, always try to avoid closing a database while importing a table or doing any operation in a table when an index is being created or reorganized. This sometimes might involve waiting patiently before closing Access if a query seems to stop responding (we italicize "seems" because you might have underestimated the

complexity of the query or the number of records involved).

If you receive any of these messages, you should try to use the Repair Database command and the Compact command. The error message, "Not a valid bookmark," may indicate that a database is on its way to being beyond repair, but isn't quite there yet. Click OK and try again to reopen the database.

On the other hand, if your database is so heavily damaged that it's beyond repair, you'll see the following error message: "The database XX cannot be repaired or isn't a Microsoft Access database file." If you do, read the chapters in your manual about database backup, security, and administration. Then take a deep breath and see if you can recreate the database from text files or spreadsheets from which the original data originated. You may be able to re-import tables into the existing database, or to export tables from the damaged database into a newly created database. However, unless you know whether it's the individual objects or the database itself that's the problem, your only safe bet is to redo both the database shell and its contained objects.

Treat this as a learning experience on the value of careful database handling, as well as on the limitations of PC-based database programs. (Even Microsoft will tell you, and not just for marketing purposes, that to store and analyze data that reaches a certain size and speed, you should really step up to a more powerful program.) And, for what it's worth, normal database deterioration through heavy use over time is enough to corrupt most PC databases. That's why frequently backing up your data is so important.



When you see this error message, you either haven't set up the necessary ODBC (Open Database Connectivity) connection or you probably still need to update it.

✱ **Error Message:** "ODBC call failed" or "ODBC connection to XX failed"

Translation: You're using Access as a front end to connect to another database, probably a SQL Server or Oracle database, but Access can't find the latter. That is, your data sits in that other, more powerful database, but Access acts as a form through which you can view and query the data. In this respect, only Access can't make the connection to let you see the data.

Solution: Either you haven't set up an ODBC (Open Database Connectivity) connection through Windows' Control Panel or through Access itself, or a once-valid connection is no longer working. To add such a connection, double-click the ODBC icon in the Control Panel (click Start, Settings, Control Panel), which opens the ODBC Data Source Administrator. Then, click Add to display the Create New Data Source Wizard.

If the database is on a network, you may need help from your system administrator in filling out the blanks. If the problem is with an existing but nonfunctioning connection, check the connections already listed in the dialog box for database or path names that are no longer accurate. For this step, you may also need the help of your system administrator to see if the back-end database has been moved. (On the other hand, perhaps the network is simply experiencing temporary problems, in which case the administrator is the one to consult to help solve this mystery, too.)

■ **Gain Access To Solutions.** Don't let these error messages frustrate you. We're all busy people, and while it's best to learn about databases by working step-by-step with a good manual at your side, most of us learn far more through encountering and overcoming the problems that result in error messages.

Over time, you'll avoid making the same mistakes because you'll know which actions generate the error messages you've already encountered. Perhaps seeing frequent error messages while learning the program will encourage you to proceed systematically while creating and redesigning your database, including how you consider all the objects within it. Any decent manual will tell you that such a systematic approach is the key to successful database creation and administration. [E]

by Andrew Pollack

WordPerfect

Beloved Word Processor Falls Prey To Miscues Like All Other Programs



Let's face it: WordPerfect does some things better than that "other" popular word processing program. WordPerfect has developed a loyal fan base; however, popularity does not equate to a "Perfect" world. Occasionally, WordPerfect users encounter some frustrating problems. The error messages and solutions here, though, should go a long way toward helping eliminate those glitches.

■ **Shape Up Or Ship Out.** Normally, WordPerfect installs in a neat and orderly fashion, leaving your system in shipshape condition. However, in some situations, it won't even finish installation without giving you an error message.

* **Error Message:** "Failure to load shipping/installation profile"

Translation: An older version of WordPerfect exists on your system, and the newer version does not want to overwrite one or more of the installation information files.

Solution: Uninstall the older version of WordPerfect from your system and install the newer version. Click the Start button, point at Settings, and open Control Panel. Double-click Add/Remove Programs. Scroll down the list of installed programs and select WordPerfect. Then click the Add/Remove button to uninstall WordPerfect.

Next, click the Start button, point at Find, and select Files Or Folders. Type `nam*.ip` in

the Named box and click Find Now. These are files that hold ip (installation profile) information for the last installed WordPerfect program. If any such files still exist, right-click them and select Delete. Restart your computer and start the WordPerfect installation process again. This creates one or more new `nam*.ip` files of its own.

* **Error Message:** "Perfect Font :Pfppop80.exe application error, the instruction at referenced memory at 0x71fce44, the memory cannot be read 0x00837f95." This error occurs only when running WordPerfect on Windows 2000 machines.

Translation: The Win2800 printer driver is damaged or corrupted.

Solution: Uninstall and then reinstall the default printer driver. Click the Start button, point at Settings, and open Printers. Click the default printer's icon to highlight it. Press the DELETE key and then click the Yes button to delete that printer driver.

To reinstall the printer, double-click the Add Printer icon in the Printers window to start the Add Printer wizard, which walks you through the installation process. (For more detailed instructions on installing a printer and making it the default, see the "My Fault, Your Fault, Henry's Fault" section near the end of this article.)

■ **Going Nowhere Fast.** Having a program fail without giving any clue as to the cause frustrates users to no end. Such a situation occurs in WordPerfect, but the happening is neither serious nor complicated to fix.

* **Error Message:** WordPerfect sometimes crashes when you try to open a file. The behavior is random; it does not always crash when attempting to open the same file.

Translation: You try to open a file before WordPerfect finishes its startup sequence.

Solution: Wait until all disk activity has stopped before attempting to open a file.

* **Error Message:** WordPerfect won't even open before it crashes, although it seems to have installed properly, or it crashes as soon as you try to open a file.

Translation: Either no default printer is selected, the default WordPerfect template is corrupted, or the WordPerfect file you are trying to open is damaged.

Solution: Install a printer and/or select a default printer, force WordPerfect to create a new default template, or discard the damaged file and use a backup version instead. As part of its opening procedure, WordPerfect looks for a printer driver. Unless it finds a printer driver—just the driver and not necessarily a printer connected to the computer—it may crash or hang. WordPerfect does not view a fax driver as a “real” printer.

To change the default printer, click the Start button, point at Settings, and open Printers. Right-click the printer you want to select as the default and select Set As Default. If you need to install a new printer, in the Printers window double-click the Add Printer icon to start the Add Printer wizard, which will walk you through installation.

If you do not have a printer, you need to trick WordPerfect into thinking you do. Install any recent printer (printer driver) as if you actually had a printer connected to your computer. You can select any printer from the list that came as part of your Windows setup programs, or you can download and install printer drivers from any printer manufacturer's Web site. If your printer/printer driver appears to be valid, the WordPerfect default template or the file you are trying to open may be damaged. To see if that is the case, open a differ-

ent file. If it opens all right, then the file you previously tried to open is probably damaged. Delete that file and work from a new or backup copy.

If WordPerfect still crashes or hangs when you try to open other files, and the default printer is a valid printer driver, WordPerfect's default template may be damaged. Click the Start button, point at Find, and click Files Or Folders. Type `wp*.wpt` in the Named box and click Find Now. Delete the file or rename it to something else, then restart WordPerfect. WordPerfect creates a

new template the first time you start the program after you delete the damaged template.

*** Error Message:** When you try to use a template or a project from PerfectExpert, WordPerfect crashes with one of the following messages: "Invalid page fault in Mrc42.dll" or "Stack fault in module Kernel32.dll."

Translation: You mostly likely have one or more faulty Microsoft dynamic-link library (.dll) files on your system. In this particular case, the problem almost always results from installing new Microsoft software that puts newer versions of certain .dll files on your system. The newer files—most often Mfc42.dll and/or Msvcrt.dll—do not work properly with many non-Microsoft programs, including WordPerfect.

Solution: Either update to the even newer (and fixed) .dll files or replace the newly installed .dll files with the older ver-

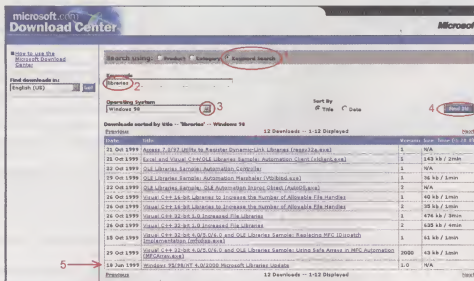
in the keyword text box, (3) select your operating system, (4) click the Find It button, and (5) find the .dll libraries file in the resulting list. When you go to the Microsoft site, Microsoft looks at your hard drive, then customizes its Web site display based on what it found. If your computer already has a specific update installed, that update will not display in the list.

*** Error Message:** "Runtime error
Program Files\Core\Wordperfect
\Office2000\Programs\WPWin9.exe
abnormal program termination"

Translation: The WordPerfect 9 template file, Wp9us.wpt, is damaged.

Solution: Delete the Wp9us.wpt file to force WordPerfect to create a new one.

Click the Start button, point at Find, open Files Or Folders, and type wp9us.wpt. Right-click the file and Delete it. Then restart WordPerfect.



Even after you get to the Microsoft search page, it still requires several steps for you to find the specific DLL library files you need to download.

sions. The easiest way to replace the files with the older—and properly working—versions is by reinstalling WordPerfect from your installation CD.

Also, you can install Microsoft's newer, properly working .dll files by installing the Libraries Update patch from Microsoft. Wading your way through the Microsoft Web site can be confusing, but you can go directly to <http://www.microsoft.com/downloads/search.asp> where you can then search for the keyword "libraries." (1) Click the Keyword Search button. (2) type libraries

[illegible]

Translation: Files controlling the Link Object Control Module are corrupted.

Solution: Replace the contents of the WordPerfect Programs directory. Simply uninstall WordPerfect and then reinstall it from the installation CD. That will remove, unregister, replace, and reregister everything automatically. Before you uninstall WordPerfect, save your data files to a safe folder outside of the WordPerfect path.

■ **Look Before You Back Up.** The easiest way to ruin your day: Lose hours of hard

work. Setting WordPerfect to automatically save your work in a backup file can keep that from happening, but you do have to tell WordPerfect where to save your files.

*** Error Message:** "WPWin error: The specified backup folder no longer exists. You will need to re-create it or specify a new one in tools settings."

Translation: WordPerfect does not know where to save your backup files because the location specified does not exist. You might have moved it, deleted it, or deleted the parent folder that contained the backup folder.

Solution: Enter a valid folder name and location in WordPerfect's Settings window. Open WordPerfect and click Settings from the Tools menu. Click the Files icon and select the Document tab. In the Backup Folder field either type the full path location in which you want your backup files stored or click the folder icon at the end of the field to browse to the folder you want to use. You can use any folder you wish, but one must already exist before WordPerfect can use it. To create a folder just for backup files (you'll need to use Explorer to create and name the new folder), navigate to the new folder's location from within WordPerfect Tools.

■ My Fault, Your Fault, Henry's Fault.

Like the cluster of three earthquake fault lines in California that are named, respectively, "My Fault," "Your Fault," and "Henry's Fault," WordPerfect often exhibits a cluster of three error messages, which also stem from the same basic fault. In this case, the fault is the printer or, more accurately, the printer driver. For whatever reason, the three error messages are generic and quite misleading—none of the three messages plainly indicate that there is a problem with the printer driver.

*** Error Message 1:** "WPWIN8 caused an invalid page fault in module Kernel32.dll at 016f:bff99c76 or 016f:0041ba81."

*** Error Message 2:** "PFPPPOP80 caused an invalid page fault in Pfit80.dll at 016f:34549d7, 0137:345e82e, or at 0137:34549d7e," immediately followed by

the message "WPWIN8 caused an invalid page fault in Wpwin8.exe at 016f:0041bb2d."

*** Error Message 3:** "WPWIN8 caused an invalid page fault in module Wpwin8.exe at 0137:0041ba81."

To further obfuscate the situation, this third error message might indicate a different address (the address is the number at the end of the message), depending on your particular system:

```
0137:0041bb2d
0137:0041bb6a 014f:0041ba81
0137:0041db2d 014f:0041bb2d
0137:0042e0c3 014f:0042e0c3
0137:0045c4ae 14f:3454cf69
0137:0041bb53 0137:0041bb6a
013f:0041ba81 014f:0042E54F
013f:0041bb2d 014f:0041bb53
013f:0042e0c3 017f:0042e6da
013f:0041bb6a 0157:0041ba81
```

Translation: One of the following situations exists: No printer has been installed in Windows, the printer driver is damaged or corrupted, a fax driver is selected as the default printer, a Primavera Plot printer driver is selected as the default printer, or a 16-bit printer driver is being

used on a 32-bit system.

Solution: Select a different default printer, install a new printer, or install the 32-bit version of the printer driver. To change the default printer, click the Start button, point at Settings, and click Printers. Right-click the printer you want to select as the default and select the Set As Default option.

If you need to install a new printer, in the Printers window double-click the Add Printer icon to start the Add Printer wizard. Click Next and then, depending on your system, click either Local Printer or Network Printer. Then click Next to display a list of printer manufacturers (the list on the left) and models of printers (the list on the right). Select your printer's manufacturer and specific model. For example, if you install a Lexmark Colorfine Series 7000, you would

scroll down to select "Lexmark" from the list of manufacturers on the left, which would cause the list on the right to display only models of Lexmark printers. Then scroll down to find "Colorfine Series 7000" from the list of printer models.

Click the Next button again and choose a printer port. LPT1 will probably already be selected, and that is almost always the correct port to use. Finally, click Yes to make the newly installed printer the default. Click the Yes button in the next window to print a test page to make sure the printer is installed correctly. If you are prompted as to which printer driver to use, select the New (rather than Current) printer driver. You may also be prompted to insert your Windows installation CD. If the test page prints correctly, click Yes. You have completed the printer installation. If the test page did not print correctly, click the No button and follow the prompts to redo the installation.

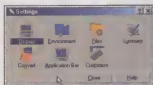
If you have the correct printer installed and set as the default, you might be using a 16-bit printer driver instead of a 32-bit driver. To determine whether that is the case, click the Start button, point at Settings, and open Printers. Right-click the printer icon and click Properties to open the Printer Properties window. If that window displays only two tabs (plus a Sharing tab if it is a network printer), then you have a 16-bit printer driver

installed and will need to install a new driver. If the Properties window contains four or more tabs (plus a Sharing tab for network printers), then a 32-bit driver is already installed.

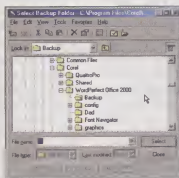
■ A Perfect World. In a perfect world, programs would always install to specification and run flawlessly first try, right out of the box. Unfortunately, that does not always happen. In the existing (Word)-Perfect world, we sometimes

have to overcome a problem or two. Just keep in mind that, with each glitch you overcome and each problem you solve, you are one step closer to a genuine WordPerfect world. [E]

by Betty Champagne Guthrie



In the Settings window, users can fine-tune WordPerfect.



If you want to make a new folder just for backups, you'll have to use Explorer to create the folder, then navigate to the proper location from within WordPerfect.

Presentations

When Presentations' Faux Pas Harass You, Know What To Do



Presentations, a core program found in WordPerfect Suite 8 and WordPerfect Office 2000, is to Corel what PowerPoint is to Microsoft: a full-bodied presentation program. This article provides you with solutions to the major error messages you may encounter with either Corel Presentations 9 (part of WordPerfect Office 2000) or Presentations 8 (part of Corel WordPerfect Suite 8).

Presentations 9 Error Messages

■ **Missing / Incorrect Version Of File Errors.** Since application programs often depend upon shared files that aren't always loaded (or may be replaced with older or newer versions), you may run into errors that require you to manually install some files.

✱ **Error Message:** "...Prwin9.exe: a device attached to the system is not functioning. Prwin9.exe is linked to missing export: Suite9.dll."

Translation: Either Prwin9.exe (executable file) or Suite9.dll (dynamic-link library) is

damaged or missing. These files are needed to start Presentations 9.

Solution: Copy Prwin9.exe into the Corel WordPerfect Suite 2000 CD-ROM to your hard drive. Click the Start button, point at Find, and click Files And Folders. Type prwin9.exe in the Named text box. Make sure that your hard drive, normally labeled as the C: drive, shows up in the Look In text box. When the file you are looking for shows up in the results at the bottom of the Find window, right-click the icon and click Properties. In the Properties window, look at the

line that reads Location. This is where the Prwin9.exe file is on your hard drive. Remember its location, for you will need it for the next step.

Open an Explorer window by right-clicking the Start button and choosing Explore. In the left panel of the Explore window, navigate to the location of the Prwin9.exe file, using the directory address obtained in the last step, until you can find the file in question in the right Explorer panel. Once you've found the Prwin9.exe file, leave the Explorer window open and go back to the Find window.

Use the Find window to locate Prwin9.exe on the CD-ROM. Once the file is located in the results of the File window, drag Prwin9.exe from the CD-ROM to the right panel of the Explorer window that contains the existing Prwin9.exe file. Answer Yes when you are prompted to replace the file on your hard drive. Restart Presentations 9. If the error reoccurs, repeat this process with Suite9.dll.

✱ **Error Message:** "...Prwin9.exe file is linked to a missing export Mfc42.dll: 6353".

Translation: Mfc42.dll, a Microsoft-built shared library file used by many programs, is damaged or is the incorrect version. To see the version number of the file, use Find in the Start menu. Type mfc42.dll, which should be in the C:\WINDOWS\SYSTEM folder and right-click the Mfc42.DLL file. Select Properties and then click the Version tab. The number of the file is listed next to File Version. The correct version is 6.00.8267.0 or above.

Solution: If the computer contains the incorrect version, start the Corel Setup program. Click the Start button, select Programs, point at Corel WordPerfect Suite 2000, point at Setup and Notes, and click Corel Setup Program (Setup.exe). When prompted by the Corel Setup Wizard, click Yes. At the next screen, select Update Current Installation. The correct Mfc42.dll file will be reinstalled on your system.

✱ **Error Message:** The message "...Prwin9.exe: a device attached to this system is not functioning" followed by "Msvcrt60.dll file is linked to missing export Msvcrt.dll: LC_COLLATE_CP." is displayed when starting Presentations 9.

Translation: The wrong version of Msvcrt.dll (a Microsoft C runtime library file used by many applications) is installed on the system. This is usually caused by installing a program that copied an incompatible version of this file on your system.

Solution: Access the Corel CD-ROM's directory using an Explorer window. Open the folders Corel, Config, and Redist. Inside the Redist folder should be Msvcrt.dll. Drag the correct version of Msvcrt.dll from the right panel to the PC's C: drive. Close all programs. Restart the computer in MS-DOS mode. From the command prompt, type
cd/windows/system
rename msvcrt.dll msvcrt.buf
copy c:\msvcrt.dll (this copies the correct version to the folder)
exit

■ **Printer-Related Errors.** Presentation programs are frequently used to create items for use as handouts or overhead-projector transparencies. Use these solutions to help solve printing-related problems.

✱ **Error Message:** "Feature not available in current state" is displayed when you try to set the background color through the Perfect Expert option in Presentations.

Translation: The system is not configured properly for this task. You need to have a default printer selected.

Solution: Select a default printer in Windows before setting the background color. Use the Control Panel's Printers icon to select an installed printer as default or to install a printer.

*** Error Message:** "POP90 caused an exception 10H in module POP90.exe at 017F:00416f1d" is displayed when you attempt to print a slide or Publish to PDF (Portable Document Format). Publish to PDF may also display a similar error: "POP90 caused an invalid page fault in module MSVCRT.dll at 0177:78001637."

Translation: The Presentation printing module cannot print the image type contained in the slide.

Solution: Convert any black-and-white (two-color) graphics in the slide into grayscale before printing or using the Publish To PDF option. Open the graphics object in its original graphics-editing program and change the image mode from black and white to grayscale. Resave the object. Restart Presentations, delete the original object, and replace it with the grayscale version.

*** Error Message:** "POP90 caused an exception 10H in module POP90.exe at 015F:00416C21" is displayed when you try to print a graphic or slide.

Translation: Pop90.exe (Perfect Print 9, used to print WordPerfect Suite 2000 documents) is damaged or is the wrong version.

Solution: Replace the current file with the correct file. Use Find, in the Start menu, to locate Pop90.exe on your hard drive. Right-click the file and select Properties to see where the file is stored. Then, insert the WordPerfect Office 2000 CD-ROM and use Find to locate Pop90.exe on the disc. Use the same technique that was explained earlier in this article to replace Pw9in9.exe.

Use Find to locate Pfrg.exe. Double-click Pfrg.exe from the Find window to start the program. All WordPerfect Suite 2000 modules will be listed. Click Unregister to remove entries for these modules from the Windows Registry. After that operation concludes, click Register to recreate Registry entries. Close Pfrg.exe and restart Presentations; you should now be able to print.

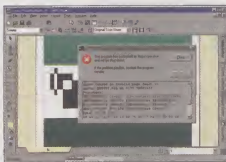
*** Error Message:** "No printer installed" message shows when you're

trying to print one or more slides, although the printer works OK for other applications.

Translation: Presentations sometimes "forgets" which printer is your default.

Solution: Click File from the menu, select Print, choose the printer you want to use, and select the settings you want. In the Print dialog box, click Settings, Application Default, and then Replace to store your printer settings.

■ Show On The Go Errors. One of the most popular features in Presentations is Show On The Go, which enables you to create a portable slide show which can be used on computers that don't have Presentations installed. Here are some typical errors and solutions for Show On The Go users.



The Perfect Fit Component Registration utility is present in both WordPerfect Suite 8 and WordPerfect Office 2000; use it to re-register WP components (including Presentations) into the Windows Registry.

*** Error Message:** "Cannot find runtime file ...Show31.exe. Do you want to continue the other runtime files?" is displayed when you try to create a Show On The Go self-running presentation for use with Windows 3.1 and Windows 95/NT.

Translation: The file needed for Windows 3.1 compatibility is not present.

Solution: You need Windows 3.1 compatibility only if the Show On The Go presentation will be displayed on a system with Windows 3.1 or Windows for Workgroups 3.11. If you don't need Windows 3.1 compatibility, select the Windows 95/NT Only option for Show On The Go when prompted. If you need Windows 3.1 compatibility for Show On The Go, order and install Service Pack 4 (available on CD-ROM only). See <http://www.corel.com/support/wordperfect/sp4.htm> for details; call (800) 772-6735 for orders.

*** Error Message:** "Cannot find runtime file - ...SHOW.exe" is displayed

when trying to create a Show On The Go portable slideshow.

Translation: The Show.exe file is missing; without it, a show can't be created.

Solution: Copy the Tools folder from the WordPerfect Office 2000 CD-ROM to the Tools folder used by WordPerfect Office 2000 on the hard drive. In an Explorer window, open the Corel folder from the CD-ROM and open the Programs folder. The Tools folder should be in the right panel. Use the Find window to locate the same Tools folder on the hard drive; the exact location of this folder varies according to the folder location you specified during installation. Type tools in the Named text box. A number of files should appear in the results. Scroll until you find the Tools folder. Right-click the folder and select Properties. Note where the folder is and navigate to it in a new Explorer window. The Tools folder should contain similar files as the one from the CD-ROM. If it doesn't, you've located the wrong Tools folder. Check the results from the Find window again to locate a different Tools folder. Drag the Tools folder from the CD-ROM to replace the one on the hard drive. Answer Yes to replace the old Tools folder with the one from the CD-ROM.

■ Miscellaneous Errors. This section deals with other types of error messages, including user permissions, file format issues, and video driver issues.

*** Error Message:** "Unsupported file format detected" is displayed when you try to save your presentation as a Microsoft PowerPoint 95 (PPT) format presentation.

Translation: Your system doesn't have the PowerPoint 95 (PowerPoint 7) file translator feature installed.

Solution: Install both the PowerPoint filters and the entire Filter Set #3 from the Corel WordPerfect Office 2000 CD-ROM. Click the Start button, point at Programs, and click Corel WordPerfect Suite 2000. Select Setup and Utilities and then Corel Setup program, click Add New Components, and highlight the PowerPoint import filters and Conversion Filter Set #3 from the Corel Presentations 9 portion of the file display. Download and install the Service Pack #3 for WordPerfect Office 2000 from Corel's Web site, <http://www.corel.com/support/download>, to improve the quality of the conversion.

If you see this error message when you try to save or retrieve other file types, you can install file filters for other types of files from

the Corel WordPerfect Office 2000 CD-ROM.

*** Error Message:** "Unable

to register application or one of its components 80004005: error initializing application instance 0" displays and Presentations shuts down when run as a member of the Users group on a Windows NT 4.0 computer.

Translation: Corel Presentations 9 is not setting file permissions correctly for members of the group Users.

Solution: Download Service Pack #3 from the Corel Web site; log on to the system as Administrator and install Service Pack #3.

*** Error Message:** "Prwin90.exe (or other Presentations module) caused a general protection fault in module Dibeng.Dll" is displayed while Presentations is in use.

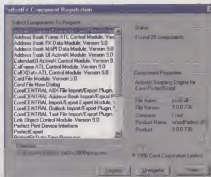
Translation: Your current video card display driver is not compatible with Presentations; the Dibeng.dll file is used for Device Independent Bitmap (graphics) support in Windows.

Solution: If possible, download and install a new display driver from the manufacturer of your video adapter. If your adapter is built into the motherboard, contact the motherboard vendor. As a workaround, you can switch to the Windows Standard VGA display driver. This is not recommended because it uses the low-resolution 640 x 480 display at only 16 colors. You can switch display adapters by clicking the Start button, Settings, Control Panels, and Display and clicking Display's Settings tab. Drag the Screen Area control to the left.

Presentations & Errors

*** Error Message:** "Prwin8 caused an invalid page fault in module Pfit80.dll at 0137:34543995." is displayed when starting Presentations 8.

Translation: The Standard.prt Presentations template has been damaged.



Using the Publish to PDF (Portable Document Format) option in Presentations 9 when the slide show contains a monochrome (2-color) bitmap may trigger this error and create an unusable PDF file.

*** Error Message:** "Prwin8 caused an invalid page fault in module GI80.dll at 015f: 33e83d23" shows when you try to open a slide show in Slide Sorter mode.

Translation: Your slide show contains a damaged slide.

Solution: Determine which slide is damaged and remove it, and the program will run normally. To locate the damaged slide, create a New Slide Show from the File menu. Then, click View and then Slide Editor. Open the slideshow in question and view each slide. When you display the damaged slide, the same error will appear. Select Edit from the menu and Delete Slide. Save the show under a different name.

*** Error Message:** "PRWIN8 caused a stack fault in USER32.dll at 015f:bff524aa" followed by: "PRWIN8 caused an invalid page fault in MFC42.dll at 015f:5f4012a1" displays when creating a new presentation.

Translation: Presentations is trying to use an incorrect version of the Mfc42.dll shared library file used by many Windows applications.

Solution: This problem takes place after Microsoft, or other third-party software, has been installed, bringing with it an incompatible version of the file. The solution is to download the Windows Library Update from <http://www>

Solution: Rename the Standard.prt file, and Presentations will create a new Standard.prt file when it is restarted. Use Find in the Start menu to locate the file; right-click Standard.prt on your hard drive and rename it to a name, such as Standard.xxx. Restart Presentations. When you restart the program, Presentations will re-create the Standard.prt file that was not found.

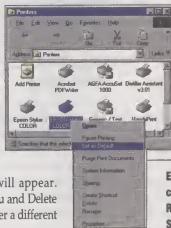
.microsoft.com/windows95/downloads. The download has a corrected version of Mfc42.dll and other shared system files that work with Presentations and other programs.

*** Error Message:** “PRWIN caused an invalid page fault in module unknown at 000:00090004” shows when Presentations is started and a slide show is selected. If you close Presentations and reopen it, a second error message “There is another instance of this Presentation running” is displayed.

Translation: Other programs already running in memory are preventing Presentations from starting correctly. Also, Registry keys may need to be rebuilt.


Solution: Use the Windows Task Manager to shut down all currently running programs except for Sys tray and Explorer. To display the Task Manager, press CTRL-ALT-DELETE. Select each program you want to stop and click End Task. Repeat until only Sys tray and Explorer are running. When only Sys tray and Explorer are running, go to the Start menu and click Find to locate the Pfrpg program on your hard drive. Double-click Pfrpg to start the program. Once all WordPerfect Suite programs are listed, select Unregister, then Register to re-create Registry keys. Close Pfrpg.

To minimize the chances that you'll experience error messages while running Presentations, be sure to install the latest Service Pack available from Corel for your version. For WordPerfect Suite 8



Error messages in Presentations can be caused by the lack of a default printer. Right-click an installed printer and select Set As Default to set your printer.

(Presentations 8), you should download and install Service Pack 7. For WordPerfect Suite 2000, order Service Pack 4 on CD-ROM (not available as a download); Service Pack 3 is available as a download. For more information, see Corel's Web site, <http://www.corel.com>.

For help with more obscure error messages, go to Corel's Web site and check out the Knowledge Base and Corel Newsgroups. You can also access Corel Newsgroups through <http://groups.google.com> (Google now manages the Usenet archives). 

by Mark Edward Soper

Quattro Pro

Though Relatively Error-Free, Quattro Pro Misques Are Easily Dealt With



If you are a Quattro Pro 9 user, you are in good company. Quattro Pro users are a loyal and persevering lot. However, no matter how much you like Quattro Pro, you may still encounter some problems and annoying errors when using it. Fortunately, there are some easy steps you can take to stop most of those aggravating errors dead in their tracks.

Cleaning The Windows. If Quattro Pro were a kid on the playground, when a problem or a scuffle broke out, Quattro Pro would be the kid insisting to the nearest adult, "It's not my fault! He started it!" More often than not, that would be the truth. If your computer often hangs, crashes, or gives you one of those ubiquitous "Invalid Page Fault" errors when you are using Quattro Pro, the chances are very good that the problem lies not with Quattro Pro but with Windows itself.

However, you don't have to "do Windows" in order to get rid of many such streaky errors. Most of the time, all you have to do is delete all of the temporary files that Windows creates for its own use, and you will find that most or all of your Quattro Pro errors disappear along with the Windows temporary files.

Windows creates and uses a Temp folder as a temporary storage place for copies of files that it is, or has been, using. Sometimes, even if your system has not crashed, Windows "forgets" to empty the Temp folder when it has finished with those files. Over time, quite a few "trash" files—and even folders—left in the \Windows\Temp folder can accumulate. Those files can confuse or otherwise interfere with Quattro Pro's normal operations.

*** Error Message:**
"Error deleting file.
Cannot delete [filename].

Access is denied. Make sure the disk is not full or write-protected and that the file is not currently in use."

Translation: While that message might sound rather ominous, it really is nothing to be concerned about. It serves as an all-purpose "FYI" message, rather than an actual error, letting you know about a particular file that it did not delete. It means that Windows is using one (or more) of the temporary files that you are trying to delete. Since Windows will not delete a file that is in use, you can skip that file and ignore the message. As long as you are deleting files and folders only from the \Windows\Temp folder, you will be all right. You will not be deleting anything that is vital to your computer system.

Solution: Deleting files and folders from the \Windows\Temp folder is pretty much a fail-safe procedure. First, close all open applications. Then open the \Windows\Temp folder by right-clicking the Start button and selecting Explore. This brings up Windows Explorer. Highlight the root drive (which is almost always the C: drive), open the Windows folder in the right panel, and then open the Temp folder.

Now delete everything, files and folders, in that Temp folder. To do this, go to the File menu (or right-click a highlighted file) and click Delete. Temporary files usually end in the extension .tmp, but both temporary files and folders may have any kind of name.

Once you've deleted the contents of the \Windows\Temp folder, you should restart your computer before you again open Quattro Pro, just to make sure that any problem files have been cleared from memory.

■ Tripped Up. Sometimes Quattro Pro trips over its own feet and "loses," damages, or corrupts one or more of the Quattro Pro configuration files.

*** Error Message:** "QPW caused an invalid page fault in module QPW.exe"
Translation: One or more of Quattro Pro's configuration files is missing, damaged, or corrupted, and since configuration files are vital to the opening of Quattro Pro, the program could not run. The page fault errors often act as all-purpose error messages when the system does not have another error message that closely matches the actual problem. The tip-off to the real cause here is the QPW and QPW.exe in the message.

Solution: Replace the Quattro Pro configuration files. To do this, click the Start button, point at Find, and open Files or Folders to open the Find window. Next, type the following in the Named text box: qp*.Cfg

This command tells the search utility to look for all files that start with qp (thus limiting the search to Quattro Pro files) and end with .cfg, which limits the search to configuration files. Make sure the Look In dropdown menu is showing the drive on which Quattro Pro is installed, then click Find Now.

For each file that the search finds, you will need to right-click the file name and select Rename. Then change the file name's extension from .cfg to .buf (buffer). (Buffer files are the last configuration files that were used.) When you have renamed each configuration file, close the Find window and reopen Quattro Pro. When you reopen Quattro Pro, it will re-create a set of default configuration files. Be aware that if you customized the Toolbar, Menu, or Keyboard settings for Quattro Pro, you'll have to reset them for the new configuration files.

■ New Doesn't Mean Better. Sometimes, you install a new program that causes problems in Quattro Pro. Though there are

several third-party programs that can cause Quattro Pro errors, some that are most often at fault include Microsoft Encarta Encyclopedia (U.S. version only), Microsoft Encarta Virtual Globe, and Microsoft Graphics Studio Greetings.

*** Error Message:** "Qpw caused a stack fault in module Kernel32.dll" or "Qpw caused an invalid page fault in module Mfc42.dll."

Translation: A newly installed third-party program installed a (usually updated) version of the Microsoft Windows Mfc42.dll file that is not compatible with Quattro Pro.

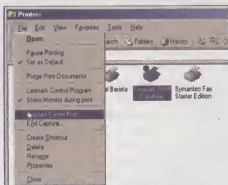
Solution: Copy the version of Mfc42.dll included with WordPerfect Office to the Desktop. To do this, insert the WordPerfect Office CD-ROM. Click the Start button, point at Find, click Files Or Folders, and type Mfc42.dll in the Named text box. Make sure the drive that holds the WordPerfect Office CD appears in the Look In box and then click Find Now. When the system finds the Mfc42.dll file, copy it to the Desktop by right-clicking the file name and selecting Copy. Then right-click any empty area of your Desktop and select Paste.

Restart your computer in MS-DOS mode. (If the computer does not have the Restart In MS-DOS Mode shutdown option, hold down CTRL as the computer reboots.) Copy the Mfc42.dll file from your Desktop to the \Windows\System folder. At the DOS command prompt, type the following lines:

```
cd system
ren mfc42.dll mfc42.old
copy c:\windows\desktop\mfc42.dll
exit
```

Quattro Pro should start without the error.

■ Too Much Help. Although it might seem as if you could never have too much help, one error message in Quattro Pro stems from the Help option. When you try to run Help in Quattro Pro, you can get an "Invalid page fault" error message and Help will not run.



Windows Me users have the easiest time capturing a printer port.

*** Error Message:** "WinHlp32 caused an invalid page fault in module Winhlp32.exe at 0177:0041ad88" or "WinHlp32.exe Application Error" ... "The instruction at '0x02ff3e5' referenced memory at '0x00000000.' The memory could not be 'read.' Click OK to terminate the application."

Translation: Help is already running in another Office application and you cannot start two instances of Help at the same time.

Solution: Close Help in the other Office application, then restart Help in Quattro Pro.

■ Where's My Printer? There are times when Quattro Pro seems to lose its way to your printer. Everything else works fine. You can print to your printer from other programs, but you cannot print from within Quattro Pro. This problem usually occurs only with network printers, but it can occur when you have multiple printers attached to a single computer.

*** Error Message:** "Unknown print error."

Translation: Quattro Pro has failed to capture the printer port for the printer that you want to use.

Solution: Manually capture the printer port. For Windows Me users, this is very easy. Click the Start button, point at Settings, and click Printers to open the Printers window. Highlight the name of the printer you want to use, open the File menu, and click

Capture Printer Port. Close the Printers window and print your Quattro Pro document.

If you are using earlier versions of Windows, it's a bit more complicated. First, close all open windows, including the Quattro Pro window. Click the Start button, Settings, Printers. Right-click the printer you want to use and select Properties to open the Printer Properties window. Click the Details tab to bring it to the front. Click in the Print To Following Port text box to highlight the text, then right-click the text and select Copy. Click on the Capture Printer Port button.

Next, right-click the text in the Path text box, select Paste to copy the port information into the Path text box, and click OK.

Click the Print To Following Port drop-down menu and select the LPT1: printer port. Click OK and then go ahead and close the Printers window. Restart Quattro Pro and print your document.

■ Getting Updated. It would be impossible to foresee, much less to explain, all possible errors you might encounter with Quattro Pro. Your first line of defense is Corel. Corel is constantly tweaking, improving, and enhancing WordPerfect Office 2000 and its components, including Quattro Pro. The company regularly issues Service Update Packs that fix problems discovered since the last full release. Therefore, to keep Quattro Pro running at its most efficient and error-free best, make sure you always have the latest Service Pack installed.

Service Packs are delivered via the Corel Web site, <http://www.corel.com/support>, or from the Corel City site, <http://www.corelcity.com>. However, unlike the previous three Service Packs, the most recent one, which is Service Pack 4, cannot be downloaded from the Corel Web site. You must contact Corel Customer Support to request it. North American customers can call Corel at (800) 772-6735. You can also contact them by e-mail via the customer service online form at or send a fax to (716) 447-7366.

The occasional problems and errors you may encounter when using Quattro Pro can usually be avoided by the application of a liberal dose of common sense, a dab of knowledge, and a handful of good preventive measures. [E]

by Betty Champagne Guthrie

Just type "Quattro Pro" into the Keywords box to search the Knowledge Base for messages about Quattro Pro.

Paradox 9

Stay Organized By Fixing Fault Messages When They Spring Up



A powerful programmable and interactive database, Paradox was originally developed by Ansa software in the mid-1980s as an MS-DOS application. Ansa later merged with Borland. Borland first licensed and sold Paradox to Corel after moving Paradox to the Microsoft Windows platform. While Paradox has a long history, the error messages in this article are all specific to Paradox 9, the latest version provided in the Professional Release of Corel WordPerfect Suite 2000.

■ **Installation** Some problems spring up immediately during installation, others reveal themselves only after you start Paradox for the first time.

★ **Error Message:** "A required source file was not found."

Translation: The installation program cannot locate the file needed for installation.

Solution: Right-click My Computer and select Properties. Click the Performance tab. If File System or Virtual Memory are listed as 16-bit or your CD-ROM is listed as running in MS-DOS Compatibility mode, you will encounter

this error. If all drivers are listed in MS-DOS compatibility mode, check for boot-sector viruses on the hard drive by running an up-to-date antivirus program. If only the CD-ROM is listed in this mode, install 32-bit drivers, which can be downloaded from the drive vendor's Web site.

Printing

★ **Error Message:** "Printer fonts have changed, rerun the report" displays when you run the report and use File/Print to print the report. Rerunning

the report causes the same error.

Translation: Paradox is not communicating properly with the printer. This can be caused by not using the current default printer for the report, by compatibility issues involving the printer driver and Paradox, or by incorrect configuration of a network print queue.

Solution: Set the printer you want to use for Paradox reports as the default before starting Paradox instead of switching to a nondefault printer after Paradox has started. Click the Start button, point at Settings, and open Printers. Right-click the printer you want to be the default and select Set as Default. A check mark appears next to the printer.

If this doesn't help, change to a newer printer driver. If the printer driver has a more recent date than Paradox's program date, change to an older printer driver. To change printer drivers, download a replacement printer driver from the printer vendor and install the driver per the manufacturer's instructions. You might receive an installation program with the printer driver or need to install it manually through the Printer dialog box. This varies with the printer driver.

Startup

★ **Error Message:** After you install Service Pack 1 or Service Pack 2 for Corel WordPerfect Suite 2000, Paradox won't open, and you see the message: "Pxpall32.dll file is linked to missing export Palrtl32.dll:DeleteTableRef."

Translation: The .dll (dynamic-link library) files were not upgraded correctly during the installation of the service pack. The files may have been open, or there may have been another problem preventing a proper update.

Solution: Reboot the computer and rerun the installation of the service pack. The latest downloadable service pack, Service Pack 3, contains both Service Pack 1 and Service Pack 2 fixes. If this fails, restart the system in Safe Mode and rerun the installation of the service pack (preferably Service Pack 3).

★ **Error Message:** "List index out of bounds" appears on the screen after working with a table. The error message repeats every time you close and reopen Paradox.

Translation: An index pointer has been corrupted.

Solution: Restarting the computer will clear up this error.

Report-Related

★ **Error Message:** "Error, the ObjectPAL version used in this report is incompatible with this version of Paradox. You must recompile from the source."

Translation: The table was originally created with a different version of Paradox, which uses different style sheets than the current version, or the table structure has been changed.

Solution: Open the file in the current version of Paradox and create a new report with a new file name.

★ **Error Message:** "Could not initialize report expecting a column separator in table header" or "File not found" appears when trying to run a report that worked properly in Paradox 8.

Translation: Paradox 9 stores reports in a folder with a longer directory path (more characters) than Paradox 8. If the directory path and report name and a sort field in the report have a total length of more than 66

characters, the 66-character limitation in the BDE (Borland Database Engine) used by Paradox will cause the report to fail.

Solution: Use group bands, which let you break a report into sections of records with an identical value, such as club members grouped by state, in the report in place of sorting the report or store the report in a shorter (fewer characters) folder path such as C:\COREL\PRIVATE in place of the default C:\PROGFILES\COREL\SHARED\PRIVATE.

*** Error Message:** "Divide by zero" displays and the system crashes when trying to run reports originally created with Paradox 7 on a Paradox 9 system.

Translation: Paradox 9 is not properly interpreting the report; "divide by zero" errors caused by any type of problem will crash a system.

Solution: Upgrade Paradox 9 to Service Pack 3 or above; Service Pack 3 can be downloaded from Corel's Web site at <http://www.corel.com/support/downloads/index.htm>. Service Pack 4 is a complete rewrite of Corel WordPerfect Suite 2000 and must be ordered on CD-ROM (\$9.95 shipping) from Corel customer service.

Damaged Files

*** Error Message:** "Access violation at address 3FD52B48 in module Cui90.dll. Read of address FFFFFFFF" is displayed during the creation of a key lookup system, a database with a key lookup system that uses a separate table and its own library to verify data entry. For example, by using a key lookup system to verify customer information, you can look up a customer by customer number, address, or name. The system also produces a General Protection fault when trying to create a blank form, and the Access Violation error message may also occur when you try to display the blank form in the Design mode.

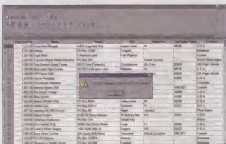
Translation: The Paradox configuration (.cfg) files, which control the Toolbar, have been corrupted. Called Pdx_en_full_bar.cfg and Pdx_en_full_bar.cfg, these files are located in the C:\PROGRAM\CONFIG folder beneath the folder that contains the Corel WordPerfect Suite 2000 program.

Solution: Delete these files and they will be re-created when you restart Paradox. Be sure that you do not delete any other .cfg files. You can either navigate to find these files or track them down by clicking the Start button, pointing at Find, and opening Files Or Folders.

Type in the file name, click Find Now, right-click the file you're searching for when it shows up in the window, and select Delete.

*** Error Message:** "Blob file not found or corrupt" displays when opening a table that can be used in read-only mode (no changes are possible).

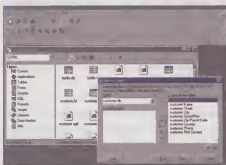
Translation: A memo or graphics field in the table cannot locate the .MB (memo-binary) file that stores the actual BLOB (Binary Large Object memo or graphics information) data; the file may be in a different folder or corrupt.



This printer error is most often caused by switching from the default printer to another printer within Paradox before trying to print a report.

Solution: If the .mb file referenced by the table is available, copy it to the folder with the table and reopen the table. If the .mb file cannot be located or is corrupt, rebuild the table by running a query on the table with the Query Expert. During the process of creating the query, click Open Read Only when the error message listed above appears.

To start the Query Expert, click the Tools menu and select Experts. Highlight Query and click the Run Expert button. Select the folder where your table is located and click Next. Select a Table from the drop-down menu. Click the double-arrow (>>) button to transfer all fields from the Available Fields list to the Display These Fields panel. Click Next. Click the Detail radio button and click Next. On the Set Criteria



Create a query with the Query Expert to recover a damaged database and make the result editable.

screen, leave the Operator set to Is Any Value to select all records and click Next. Select a sort order, if desired, and click Next. Enter a new name for the query and use the current folder. See that the Run Query radio button is selected and click Finish. The new table, recovered from the original, is displayed on-screen. It contains all the information except for the contents of the lost .mb file and can be edited.

■ Paradox Runtime. The Paradox Runtime package allows you to distribute Paradox-based applications to users who don't have Paradox.

*** Error Message:** When you use Paradox 9 Runtime and you repeatedly open a form containing ObjectPAL code, you will see "General protection violation."

Translation: The Pform32.dll file used by Paradox 9 Runtime needs to be replaced with an updated version.

Solution: Download the replacement version from <http://www.corel.com/support/ftp/site/pub/paradox/paradox9/index.htm>. Save the replacement Pform32.dll file to your hard drive. Use Find to locate the old versions; replace them with the downloaded version.

■ Windows 2000 Security and Paradox. Because Win2000 is a high-security operating system, it can cause some confusion for users who are accustomed to the low-security Windows 9x, Windows Me versions.

*** Error Message:** After Paradox was installed on a system running Win2000, a user sees "Cannot write to private directory" when trying to start the program.

Translation: The current user of the computer has not been granted the proper access level to the directory because the program was installed by the system's Administrator.

Solution: The system's Administrator must set the Private folder to "Full Access" for all users.

■ Final Tips. To make Paradox work as reliably as possible, make your default printer the printer you use most often for Paradox reports. At a minimum, download and install WordPerfect Office 2000 Service Pack 3, or better still, order Service Pack 4 from Corel. Store your reports and database files in folders without spaces in the file name and keep the path to the folder under 50 characters. [E]

by Mark Edward Soper

Word Pro

Break Down Perplexing Predicaments Like A Pro



Word Pro is the word processing application in Lotus' SmartSuite Millennium Edition office suite. The most recent version of the program is Word Pro 9.6. Like any program you use, it helps to know the version of the program you are using when it comes time to try to decipher the meaning of error messages that you may encounter using the program. To detect the version of Word Pro you're using, open Word Pro, click Help, About Word Pro, and check the version number listed on the dialog that appears.

Most errors that are associated with Word Pro versions 9.0 and 9.1 were taken care of by Lotus with version 9.5. Lotus recommends that if you are still using an older version of the application, upgrade to the most recent version to avoid many problems. However, know that the upgrade does include an upgrade fee. If you choose not to upgrade, you'll find solutions for several error messages below that are related to earlier versions of the program, as well as for problems associated with recent versions.

■ **Invalid Pages & Applications.** In general, invalid page faults and application errors are serious and can cause your computer to crash. If you're lucky enough that your system doesn't crash, and instead, you're given options to Close or Ignore the error message, click Ignore and try to save your work. If this proves successful, your system is probably still unstable, and you should strongly consider exiting Word Pro and restarting your computer.

Overall, these types of error messages tend to be similar, but the circumstances for which they occur are different. To troubleshoot these errors, try to match the error message that appears on your screen with the circumstances below when your error appeared.

✱ **Error Message:** "WORDPRO.EXE - Application Error. The instruction at "0x01673321" referenced memory at "0x00000000." The memory could not be read"

Translation: You're only likely to see this error message if you use version 9.0. You may encounter it if you use Lotus Notes and work with a database that includes a Word Pro object. Double-clicking the object's icon can cause Word Pro to crash, forcing you to restart your computer to recover.

Solution: Lotus addressed this problem with the release of version 9.1 of Word Pro. If you haven't upgraded to a more recent version, you can avoid this particular problem in 9.0 by simply updating two .DLL files, which are *Lwpeqn.dll* and *Lwpeqen.dll*. These files are available from the Lotus Support File Library (<ftp://ftp.support.lotus.com/pub/desktop/WordPro/win95/updates>). Lotus does suggest upgrading to a more recent Word

Pro version as a better option than updating these files, however.

✱ **Error Message:** "Word Pro caused an invalid page fault in WORDPRO.EXE"

Translation: This error message may pop up periodically if you have a Hewlett-Packard scanner connected to your computer. The problem occurs because of a conflict between the scanner and Word Pro and results in Word Pro crashing.

Solution: As you might guess, the easiest way to avoid this problem is to unplug the scanner to prevent it from communicating with Word Pro. However, another solution is stopping the scanner's software from running in the background of your system where it can go unnoticed. Depending on the operating system, press CTRL-ALT-DELETE. In the Close Program (or corresponding) dialog that appears, select the software for the HP scanner installed and click End Task. In Windows NT and Windows 2000, press CTRL-ALT-DELETE. From the Windows Security dialog that appears, click Task Manager. From the Applications tab, select the HP software running, click End Task, click File, and exit the Task Manager.

✱ **Error Message:** "Word Pro caused an invalid page fault in module WORDPRO.EXE"

Translation: This error message is primarily associated with version 9.0. You're likely to see it if you use the Go To command to move to a named table or a named table cell in a document that contains multiple pages. This error can lead to Word Pro crashing. You'll need to restart your computer.

Solution: The release of version 9.1 resolved this problem. If you haven't upgraded to this version, you may be able to work around the problem by simply avoiding using page breaks in your document and by not naming the table and cells you're using within it.

✱ **Error Message:** "WORDPRO caused an invalid page fault in module WORDPRO.EXE"

1-2-3

Streamline Your Spreadsheets By Eliminating Flaws

Even with all of the advanced features continually added to spreadsheet programs, they are still among the easiest applications to use, and Lotus 1-2-3 is one of the most straightforward. Yet, despite its simplicity, issues and questions regarding 1-2-3 continue to surface. We've provided a list of error messages you might encounter. The solutions provided were developed by Lotus Quality Engineering or consultants experienced with Lotus products.

■ Problems With Files.

Users have long been able to modify the look of their spreadsheets by doing such things as changing fonts, choosing background colors, and adding charts. For most spreadsheet applications, each new version responds to consumer demand by adding more and more range to how much formatting users can employ. Unfortunately, this sometimes contributes to error messages.

*** Error Message:** "XX file does not exist. Check that the path and file name are correct."

Translation: The user is attempting to launch 1-2-3 with file XX as the default file that automatically opens. The user has created a Windows icon to do this and has entered the file name in the Target text box, but has not used the proper syntax and the file name includes a space (for example: Estimated Budget.123).

Solution: If you want to open a 1-2-3 file from a Desktop icon, use the -w parameter and place quotes around the path and file name. Right-click the icon, and under the Shortcut tab, change the Target so it looks like:



C:\Lotus\123\123w.exe -W "C:\Lotus\123\Estimated Budget.123"

Make sure there is a space between the -w parameter and the first quotation mark.

*** Error Message:** "Fatal Exception OE"

Translation: This may occur when launching 1-2-3. It tends to occur on PCs with certain video cards such as ATI 3D Rage Pro and Matrox Graphics MGA Millennium.

Solution: If the video card is the problem, lowering your PC's hardware acceleration may eliminate the error. Click the Start button, select Settings, and open the Control Panel. Double-click the System icon, choose the Performance tab, and click Graphics. Select a different Hardware acceleration level. Click OK and reboot your computer.

*** Error Message:** "Unable to get File Reservation"

Translation: You were attempting to reserve a file that resides on a server or another networked computer.

Solution: 1-2-3 workbooks are reserved to the user that opened them, so only one user at a time can make changes. If the Read Only indicator appears in the title bar, then the workbook is reserved (another user has it open) and the workbook cannot be saved. However, if there is no Read Only indicator, have the network administrator check what kind of access or permissions you have to the folder where the file is located. Additionally, some users on Netware networks have reported this problem and resolved it by upgrading the Netware client to a newer version.

■ Scripts & Macros. By using a macro to group a series of commands under one name, you can make Lotus 1-2-3 execute commands in quick succession. And if you perform certain tasks repeatedly, using macros is a great convenience. LotusScript, a programming language that lets you automate tasks and streamline complex procedures, is another feature that works well for customizing 1-2-3 worksheets. But even though macros and LotusScript give you more specific control, error messages are bound to crop up at one time or another.

*** Error Message:** "123 must be in Ready mode before you can start another 123 session." or "Cannot create automation object."

Translation: A script tried to create a 1-2-3 object using the CreateObject function. This error message appears because 1-2-3 does not support embedding a 1-2-3 object within itself (such as embedding a workbook within a workbook). When the CreateObject function is invoked to create the 1-2-3 object, it attempts to open a new session of 1-2-3 for that object. 1-2-3 cannot open multiple sessions with its default settings. (Normally, if you open a second 1-2-3 workbook file, it opens under the same 1-2-3 session so you can switch between files via the Window menu.)

Solution: You can change 1-2-3's settings to allow it to open multiple sessions by adding the -c command line parameter to the program's settings. Close 1-2-3. Right-click your 1-2-3 icon (on the Desktop, in the Window's

Start menu, or in the Lotus SmartCenter) and select Properties. Select the Shortcut tab, and in the Target text box, add < to the end of the command line (outside the quotes). Click OK.

*** Error Message:** "Warning! Could not find an exact solution. Do you want to use the next closest guess?"

Translation: You created a macro in an earlier release of 1-2-3 using the Backsolver function. After converting your workbook to the latest 1-2-3 version, you run the macro and receive this error message.

Solution: Older versions of the Backsolver function automatically chose the closest guess to the solution of a problem. The formula syntax has changed slightly from earlier releases to: {BACKSOLVE formula-cell;target-value;adjustable-range;imprecise-solution}. However, imprecise-solution is an optional argument that you do not have to include in the formula. So, if you now want 1-2-3 to automatically choose the closest solution, simply add Accept as the fourth argument in the Backsolver formula in place of imprecise-solution. For example, your formula may look like: {BACKSOLVE G100;1000;G95;Accept}

■ Working With Others. Almost every type of application is trying to improve its compatibility with other applications, and Lotus 1-2-3 is no exception. But sometimes, these types of conflicts are unavoidable. Even with all of the advances 1-2-3 includes with each new version, it still isn't immune from the same variety of errors generated by other applications.

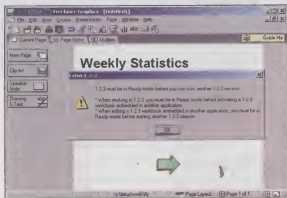
*** Error Message:** "When editing a 123 workbook embedded in another application, you must be in Ready mode before starting another 123 session." (and similar messages) or "XX was unable to open or update the Workbook OLE object. Either the source application is busy with another task or the file could not be found. Try again later."

Translation: You were using Paste Special to add part of a 1-2-3 workbook into a Freelance presentation while still editing data in the workbook. (In the second message, XX is the name of the application into which you are pasting the 1-2-3 data.) If 1-2-3 is in the act of adding or editing data (the Status bar in the lower right corner will display Value, Label, Point, Calc, or Edit), 1-2-3 will present you with this error message.

Solution: Make sure 1-2-3 is in Ready mode, as indicated by the Status bar. If editing a cell, simply press ENTER to return 1-2-3 to Ready mode.

*** Error Message:** "123w caused a GPF in Module XX.DLL." or "123w caused an exception 10H in module Main123w.dll." or "123w caused an exception 10H in module MSCVRT.DLL."

Translation: You may encounter these errors if you have a Hewlett Packard printer. (The first error will display the name of a printer driver file in place of XX.DLL.) You might see these errors when printing, as well as during other standard activities such as launching 1-2-3, creating new graphics, editing a cell, or modifying the page layout.



Make sure 1-2-3 is in Ready mode before working with other SmartSuite applications.

Solution: Start by downloading the latest driver for your HP printer (<http://www.hp.com>). If the error occurs when launching 1-2-3 or opening a file, change the default printer in Windows. From the Start menu, select Settings and click Printers. Right-click another printer and select Set As Default.

If you only have one printer, use the Net-It Now! SE print driver for the default. Then, when you want to print a workbook, switch printers in 1-2-3's Print settings. If you're still having problems after making these changes, you can experiment using a different HP printer driver. For example, try using one from another model that is similar to yours.

*** Error Message:** "123 must be installed first" (appears while installing ViaVoice)

Translation: This error displays when users attempt to install ViaVoice immediately after a 1-2-3 installation.

Solution: Reinstalling 1-2-3 does not resolve this issue. However, you can try using one of the following two approaches.

One, make sure all prior releases of 1-2-3 have been uninstalled. Then after installing 1-2-3, reboot the computer before trying to install ViaVoice.

Two, consider deleting specific Registry (database of user preferences and system configuration settings in Windows) entries from previous versions of 1-2-3 that might be preventing ViaVoice from installing. Remove these old entries before reinstalling ViaVoice. But remember to be extremely careful while editing the Registry because changes take effect immediately and an incorrect entry can cause serious system problems. It's a good idea to make a backup copy of your Registry before making any changes.

Open the Start menu and select Run. Type regedit in the Open field and click OK. Once the Registry Editor window opens, click the plus signs (+) next to: HKEY_LOCAL_MACHINE, Software, Lotus, and 123. When you select 123 in the left pane, if there are multiple keys in the right pane, delete all the ones that are *not* labeled 99.0 by right-clicking the key and selecting Delete. Next, click the plus sign next to: HKEY_CURRENT_USER, Software, Lotus, and 123. Again, delete any keys under 123 that are *not* labeled 99.0.

These changes will disable any older versions of 1-2-3 that are still running on your machine. Close the Registry and reboot.

■ Ask The Expert. The 9.x version has an Expert feature to help you find out how to perform different tasks in Lotus 1-2-3. Click Help, Ask The Expert. Choose to display Help information about a specific topic listed or enter a question into the text box and click Ask. Based on your question, the Expert will replace the list with Help topics that answer your question.

For further help with 1-2-3 error messages, search the Lotus Knowledge Base (<http://www.lotus.com/home.nsf/welcome/support>). If you suspect that the error you see on-screen is a new error, you can report it to Lotus. Contact a support consultant at (800) 553-4270 and request a defect report form. [E]

by Tracey Dishman Patterson

Freelance

Slap On Solutions When Presentations Get Graphic



Freelance is a graphics presentation application in the Lotus SmartSuite Millennium Suite with features to create presentations for overhead slide projectors, 35mm slides, and presentations on computer screens and the Web. As useful as it can be, the program will probably throw an error message your way periodically. We've included some messages and solutions below relating to Freelance's various versions. To determine which version you have, click Help from the menu bar and then About Freelance Graphics. The version number should be in the dialog box that appears.

■ **Major Crashes.** The errors below are major and can cause your system to crash. Even if they don't, you should reboot the computer after encountering errors because the system is probably still unstable.

✱ **Error Message:** "Freelance caused an invalid page fault in module

LTSCFN40.OCX (or module LTSCFN31.OCX)"

Translation: Problems with the Text Properties command in the Dialog Editor usually cause this error message. If you use the editor (by clicking Edit, Script, and Show Dialog Editor), you may see the message if you try to change the format of text you've typed.

Solution: Lotus solved this problem with the SmartSuite 9.6 upgrade. If you haven't upgraded to this version, you can avoid the error by changing the way fonts are displayed, which shouldn't adversely affect other programs. To do this, click the

Start button, Settings, Control Panel, and open Fonts. Depending on your operating system, click Tools or View and then Folder Options or Options. On the TrueType tab, select Show Only True Type Fonts In The Programs On My Computer. Click OK and restart your computer.

✱ **Error Message:** "Internal error Fault 0"

Translation: This error message ultimately results in Freelance crashing and happens on systems running Windows 95 where the hardware and software setups of a Hewlett-Packard LaserJet 4500 PCL printer driver are in question. The message can appear if a LaserJet 4500 printer and a presentation using the "Strategic Plan—SLP" SmartMaster are selected. The message appears when you click OK.

Solution: Lotus states it is aware of the problem, but you can avoid it using a PostScript printer driver instead of the HP driver.

✱ **Error Message:** "F32MAIN Caused an Invalid Page Fault in Module F32MAIN.EXE"

Translation: This error message is a result of a custom SmartMaster (or template) created in Freelance 97. The error can appear when opening a SmartMaster in Freelance 9.0 that was created in Freelance 97. If you try to create a new presentation based on the older SmartMaster, you are likely to see this error:

"Freelance Graphics Internal Error: Fault Number 0"

Solution: Lotus fixed this problem in Freelance 9.6. If you don't use this version, dodge the error by not using the older SmartMaster that triggers the error. You should still be able to retrieve data from the older SmartMaster by clicking File, New Presentation, and choosing No Content Topic and No Look options. Click OK and OK again to create a blank presentation. You'll have to copy the data from the old presentation by clicking File, Copy Pages From Other Files and choosing the PRZ file that was based on the custom SmartMaster. Click Open and select either the option to Select All Pages or click the individual pages you want and click Add. You must choose the position in the presentation where the pages are to be inserted and click OK. This new file will contain the data you copy, but it will not have the appearance of the custom SmartMaster. After you copy the data, save the presentation.

■ **General Errors.** General errors are annoying and slow you down, but fortunately, they don't typically crash your computer. Examples of these are discussed below.

✱ **Error Message:** "Freelance does not support this bitmap format."

Translation: If you're using a computer that runs Windows NT and the color palette is set at a high color value, you may see this message in versions 9.0 and 9.1. In particular, the message may appear if there is an image on the Clipboard, such as a screenshot, and you click Edit, Paste Special, and select the Device Independent Bitmap option to paste the image to a presentation.

Solution: Freelance 9.5 contains a fix to rectify this problem. If you don't want to upgrade to this version, you can elude the error message by simply using a smaller color palette. You can alter the palette by

changing the Windows display setting to a smaller number, such as 256 colors. You can do this by clicking a blank area on the Desktop and clicking Properties from the context menu that appears. From the Settings tab, select the number of colors to use from the Color Palette.

***Error Message:** "MManager Error in Load of LotusScript DLL (LTSSN40.DLL)"

Translation: This message can appear on a system that runs WinNT, Windows 98, or Windows 2000 when Freelance 9.1 is started. In some cases, trying to start the program will cause a dialog to appear. If you continually click OK on the dialog, an additional error message may appear that reads:

"Script: F32MAIN.EXE - Unable to Locate DLL: The Dynamic Link Library LGLN11.DLL Could not be Found in the Specified Path."

This message is typically caused when your Lotus applications have been installed in a directory that you have named with more than 23 characters.

Solution: Lotus took care of this problem with the release of Freelance 9.6. Users without this version can sidestep the problem by reducing the length of the directory name to less than 23 characters. You should be able to rename it by locating the directory with Windows Explorer. Right-click the directory and select Rename.

***Error Message:** "Freelance Graphics was unable to open or update the Notes Link OLE Object. Either the source application is busy with another task, or the file could not be found. Try again later."

Translation: This error message can also appear in 9.5 versions of Lotus 1-2-3 and Word Pro on systems that run Windows 95 or WinNT with Service Pack 3 installed. Typically, the error occurs when Past Link is used to include a Notes R5 document in a Freelance presentation.

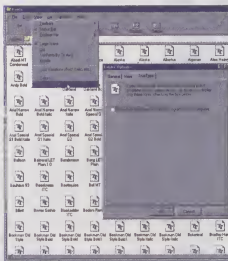
Solution: Lotus states it is aware of the problem, but currently there is no solution available to remedy it. However, if you use WinNT, you can install the latest service pack, which is 6a, to solve the problem for that operating system.

***Error Message:** "MMSYSTEM277: A problem occurred in initializing MCI.

Try restarting Windows. (MCI Error 277 in MCI_OPEN)"

Translation: This error can creep up in any Freelance version as a result of a conflict with a QuickTime MCI driver. Specifically, the error may appear when you attempt to add a QuickTime movie to a presentation or if you try to link to the movie or embed it in the presentation.

Solution: Lotus states on its site that it knows of this problem and is looking into it. The company adds that the problem MCI dri-



If you encounter problems with text properties inside the Dialog Editor, try opening the Fonts applet in Control Panel and disabling the TrueType font option to prevent the problem from happening again.

ver is installed with QuickTime versions 3.0, 4.0, and 4.1. One solution to this problem is installing an earlier version of the program than these to get around the problem. However, if you use a QuickTime movie that is of a later version than the program, this isn't a viable option, since the movie format doesn't have backward compatibility. In other words, a current movie won't play on an earlier version of QuickTime.

You can use the Create, Object option as an alternative. Doing this will enable a movie to work with any version of QuickTime, but the playback may not be what you want. In general, movies will play in the middle of the presentation screen instead of in a more desired and tactful area.

***Error Message:** "Printing Status - f32main.exe - Application Error. The instructions at "0x77ee1ffe" referenced

memory at "0x0000000". The memory could not be "written."

Translation: You may see this error if you use Freelance 9.5 on a system running WinNT and there is an HP LaserJet 4 printer connected. The message can appear when you attempt to print a file.

Solution: The easiest way to resolve this problem is to upgrade to Freelance 9.6. If you choose not to, you will probably have to print to another printer, as Lotus reports there isn't a solution available for this problem.

***Error Message:** "You typed a directory path or file name that is not valid. This name may be too long or may contain invalid characters. Please check the path."

Translation: Creating a new Freelance file in the Notes R5 presentation library can trigger this error message to appear. Specifically, the message can display if the FLG directory already contains other Freelance .PRZ files.

Solution: You should be able to simply ignore this message when it appears and click OK in the dialog. After doing so, you should be able to keep working without experiencing any negative consequences.

***Error Message:** "Save and Go: sngsetup.exe - Application error. The instruction at 0x77fcfd2 referenced memory at 0x000866d0. The memory could not be read."

Translation: If you run WinNT and try to run the Sngsetup file that was saved using Save And Go, this message can appear. The problem is exclusive to Freelance versions 9.1 and 9.5.

Solution: Like other error messages, this problem is easily resolved by upgrading to Freelance 9.6. Unlike some other errors, there isn't a known way to work around the problem if you choose not to make the upgrade.

■ Solution Springboard. The solutions to the error messages listed above should provide a good foundation for the problems you may face when using the various versions of Freelance. If you do come across a problem that isn't addressed here, try seeking help from Lotus' support site (<http://support.lotus.com>). There, you should find such additional resources as a knowledgebase of articles related to Freelance. **LE**

by Helen Bradley

Approach

Make Amends With Mishaps That Move In On You



Approach is the database application in Lotus® SmartSuite Millennium Edition many users favor for the simplified tools it offers to manage and integrate data from various sources. Approach has several versions, with 9.6 being the most recent. Most error messages you're likely to see in older versions were resolved in later upgrades. The best way to avoid errors is by upgrading to 9.6. There are also three patches available for download for Approach 9.5 that will resolve many problems in that version.

■ **Patches A, B & C.** The errors below are exclusive to Approach 9.5 and entail using Patches A, B, and C to correct the errors. Patch C contains both B and A. For information and download sites about the patches, go to <http://support.lotus.com> and type "Approach Patch C" in the Search By Keyword field and click Go. Click the Patches And Updates Available For SmartSuite Millennium Release 9.5.x link on the following page.

✱ **Error Message:** "Invalid Page Fault in Approach.exe"

Translation: This message can appear if you try to edit a Find you have saved with the Edit An Existing Named Find option. The Find utility locates distinct records contained in a Notes database. The message typically appears when your database file has fields with especially long names, usually more than 256 characters.

Solution: To solve this problem, obtain and install Patch B for Approach 9.5. You can attempt to bypass the problem by renaming fields in the database that have long names so they have less than 256 characters. However, make sure to back up the database before doing this, as it can lead to other problems.

✱ **Error Message:** "Type Mismatch"

Translation: This message may display when you try to create a script using LotusScript and reference a text property belonging to a drop-down list that isn't actually available. Text property refers to a specific property that can be controlled. This message results when you attempt to use the text property.

Solution: Download and install Patch A for Approach 9.5 to resolve the problem.

✱ **Error Message:** "Approach.exe caused an invalid page fault in msvcrt.dll"

Translation: If you try to find a particular entry that is contained in a large drop-down box by typing the first letter of the entry item you're looking for, you may encounter this message or Approach may simply stop functioning altogether.

Solution: To solve this issue, obtain and install Patch A for Approach 9.5. After you install the patch and try executing the same procedure again, it may appear the same problem is occurring. This isn't the case, however. Approach is actually running, but it is simply

taking a long time to perform the task. Wait and the program should continue to function.

✱ **Error Message:** "The SQL Statement is Invalid. [Microsoft][ODBC SQL Server Driver] Syntax Error or Access Violation"

Translation: You may see this error if you use the SQL Assistant to open a Microsoft SQL 7 table and choose a field that is a date type field as a Condition.

Solution: Lotus addressed this particular problem with a fix that is available in Patch C. Download and install the patch to resolve the problem.

■ **Errors In General.** Below are examples of general errors that may occur when using Approach. Some of the errors currently have no solution. Others may appear because of limitations in Approach and other programs you try to export your data to.

✱ **Error Message:** "Approach caused an invalid page fault in module LTSBC61.DLL" or "Approach caused an invalid page fault in module LTSBC70.DLL"

Translation: You may see this error in any version of Approach when you attempt to create a Crosstab or if you click a row to select it in an existing Crosstab. The problem arises if the Approach Status Bar display is enabled. It is due to a fault in the program's code.

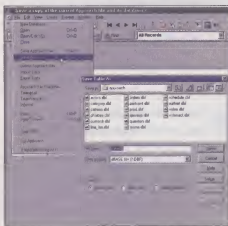
Solution: Disable the Status Bar to elude the problem. You can do this by clicking View. If the Show Status Bar option is checked, deselect it.

✱ **Error Message:** "Cannot find Memo and PicturePlus File for XX.APR"

Translation: In this message, XX represents the file name and path of the file you're trying to open. The error can occur for several reasons, including if there is a corrupt memo or picture field in an Approach database. It can also occur if the DBT file (where memo field data and other sundry data for the database is stored) for a database isn't located where Approach expects to find it. This is typically the same directory as the DBF file (the default file format Approach uses to save files). In this case, the DBT file may have been deleted, moved to another directory, or its name was altered. If you try to open the DBF file, the error may appear if you use versions 9.0, 9.1, 9.5, or 9.5 with Patch A. In short, users sometimes grab the DBF file and rename it without realizing its reliance on the DBT file. If

Approach can't find the .DBT file when it opens, the message displays.

Solution: The solution depends on the cause of the problem. If the .DBT file isn't in the correct folder, put it back with the .DBF file and try reopening it. If a corrupt memo or picture field is the problem, export the Approach file and the memo field to a new file. Another option is adding a new memo field or a new picture plus field to your database and copying all the data from the existing field to it. Then delete the old memo field. To protect your file from further problems, back it up before changing it. To do this, click File, Save As, give it a new name or new location, and click Save. Then select the Exact Copy option.



Before altering a file or troubleshooting an error related to it, it's a good idea to back up the file first, as shown here.

*** Error Message:** "There was a disk error while trying to write this Approach file. Your computer may be out of disk space."

Translation: You can see this message after performing a particular sequence of events, starting with opening a file using the SQL Assistant. If you try to modify the Approach program preferences by clicking File, User Setup, and Approach Preferences, the message may appear.

Solution: Currently, there is no solution available. You can attempt to get around it by making alterations to the preferences before opening the file with the SQL Assistant.

*** Error Message:** "The find rule in XX is not valid."

Translation: If you try to do a Find on an Approach text field and search for entries beginning with the letters "if," you may see this error after typing "if" in the Field box to perform the search. This is more of a problem

with your search string, because "IF" has a special meaning in Approach. Specifically, it's used to find data in a database, such as `IF((firstname='Jane')or(firstname='Sue'))`.

Solution: Wrap your search text in quotes. This indicates to Approach that the letters "if" are text to be searched for and not a keyword to use in a special task.

*** Error Message:** "There was an Error Modifying the Database XX (-1003)"

Translation: The message can indicate a .DBF file has a record size close to the maximum 4KB permitted. If you try to add a field to the file or increase the size of an existing field to push the record size over this limit, the message displays. The XX in the message represents the file you're trying to modify. You can check the size clicking Create, Field Definition, and then add the figures in the Size column for all the fields. If it is close to 4,096 bytes, you are nearing the limit.

Solution: Keep the file size below the maximum allowed. You can reduce the size by converting large text fields to memo fields by clicking Create, Field Definition. Then click the text field and change the type from Text to Memo. Memo fields don't take up as much space as text fields because data is stored differently. If you need to add more fields to a database, you can also create them in a new database and then join them to the original file. Back up the file before making changes.

*** Error Message:** "Not Enough Memory to Display all Database Values for Field "XX" in the List. The Value List Will Function-Normally."

Translation: XX in this message is the field name you're creating a list for. This error appears only in Design mode. The message can appear when working with a field with a large number of unique values (typically 220 or more). A unique value is something not repeated often throughout the database field. For example, in a U.S. customer database with 1,000 entries, a field for country would have limited unique values because most customers would live in the United States. However, a "Lastname" field would have many unique values (220 or more), since the majority of last names would be different and you could create a drop-down list for this value with the Create List Automatically From Field Data option.

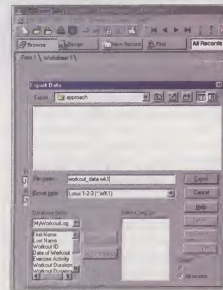
Solution: There isn't presently a solution for this. However, the error doesn't cause

lasting problems and the drop-down list will still be created and work correctly.

*** Error Message:** "Cannot create database <<XX.DBF>>. You may not have authorization to create a new database, disk may be full, too many files may be open, or a disk error may have occurred."

Translation: XX is the name of the file you're attempting to create. If you're working on an Approach file containing more than 8,192 records and you attempt to export these records to Lotus 1-2-3, you may see this message. The issue is with the file format you're trying to export to. Lotus 1-2-3 files may only contain 8,192 rows; thus, the file you're trying to export exceeds the limit.

Solution: The solution to this problem is to import the Approach file into Lotus 1-2-3 rather than exporting it from Approach. To do this, open Lotus 1-2-3. Open the .DBF file by clicking File, Open, and from the Files Of Type drop-down list click dBASE (DBF). Choose the file to open and click Open.



Exporting data to Lotus 1-2-3 from the early versions of Approach can lead to problems if the file is too large. You can prevent possible errors from occurring by importing the file into Lotus 1-2-3 instead of exporting it.

■ **Approach Cautiously.** Approach files can contain considerably valuable information, so treat them with care. Make backup copies of your files before making changes to their structure and before troubleshooting errors. **LS**

by Helen Bradley

Memory

Tips For Managing Memory Mishaps

When PC users encounter an "out of memory," "insufficient memory," or similar error message, the first thing they often think is, "I've got plenty of RAM. How can I be out of memory?"

When these messages appear, don't panic and automatically buy more RAM. Chances are the amount of memory in your system is just fine. In general, 32MB to 64MB of RAM is still acceptable. Memory errors are in fact fairly common and often mean your computer has encountered an internal error and is having difficulty making use of the existing memory. Many of these errors can be easily fixed. The trick is trying to figure out exactly what is making the error crop up.

When troubleshooting memory errors, consider what happened just before the problem started. If you've recently installed memory, the memory could be defective, but don't return it immediately. (The exception to this is if your system reports a "parity error," which usually indicates defective RAM modules.) The memory may be just installed incorrectly. Most motherboards are particular about how memory must be installed. Sometimes memory must be installed in pairs, such as two 32MB RAM modules equaling a total of 64MB. Sometimes if there are four memory sockets present, a board requires the first and second sockets be filled. Others may require the first and third sockets be filled. The only way to know for certain is by consulting the user manual for your motherboard and reviewing if the RAM is installed as specified. If everything seems correct, take your RAM to a computer shop to test it. A reputable shop may do this for free.

If you receive memory errors after you change your system configuration or install new hardware, those changes may be the source of the problem. Try backing out of the changes you made or removing the hardware you just installed. The problem may be that the new system configuration is slightly incompatible or the hardware is improperly installed. Hardware and software conflicts are less common these days, but they still crop

up. Also, be aware that a shortage of hard drive space can cause many problems, some of which might appear to be memory-related. When in doubt, clean up your hard drive.

Once you've exhausted these possibilities, it's time to troubleshoot. While the sources of memory errors are numerous, below is a partial list that covers many of the more infamous memory maladies.

■ **Newly Installed Or Defective RAM.** Many problems occur after installing new RAM or RAM that is defective. Below are examples of typical problems and how to rectify them.

✱ **Error Message:** "CMOS memory size mismatch" or similar messages.

Translation: If you install additional memory to your system, this message or one like it may appear. This is normal. Your PC is recognizing the new memory and asking you to confirm the new memory size. You'll be asked whether or not to save the new settings.

Solution: Click Yes, and your system should work normally with the new RAM.

✱ **Error Message:** "CMOS memory size mismatch" or "Windows encountered an error accessing the system registry" or "Memory parity interrupt at XX" or "Memory verify error at XX" or "Memory address error at XX" (with XX being the location of the error).

Translation: If you accept the new settings as explained above and continue to

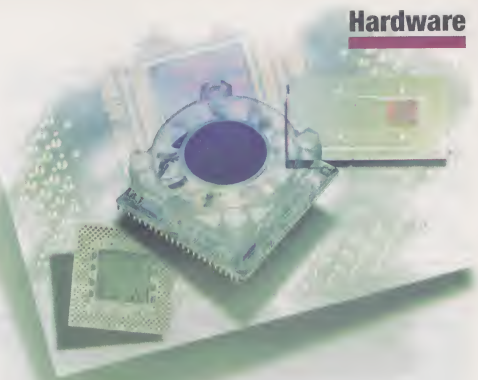
receive memory-related errors, the memory you installed may be wrong for your system. For example, if your system requires tin contacts along the edge of the RAM module instead of gold contacts and you installed the wrong kind, you may see an error. Such problems are rare, but name brand computer systems and especially older systems are more susceptible to requiring specialized RAM. In addition, if an error message suddenly comes up and/or occurs intermittently, your physical memory may be damaged and about to fail.

Solution: Any of the above error messages may indicate something is wrong other than defective RAM. Try replacing the RAM and restarting your system to verify that the problem is with the hardware. In addition, you may have to install the correct type of RAM for your particular system.

✱ **Error Message:** DOS won't recognize more than 64MB of RAM.

Translation: If you have more than 64MB of RAM installed in your system but can't see the RAM when you boot to DOS or use DOS-based programs, this is actually normal. When DOS was in vogue in the 1980s, 64MB was an unfathomably large amount of memory, so provisions weren't built in for accessing more than 64MB.

Solution: There is no real problem, but you might consider switching to a newer OS (operating system).



■ **RAM Runneth Over.** Believe it or not, having too much memory installed can cause problems. Below are such situations and how to deal with them.

* **Error Message:** "Remove unnecessary utilities from your config.sys and autoexec.bat file" or messages that indicate your system is out of memory and can't start.

Translation: If you're a serious gamer or use graphics-intensive software, it's tempting to plug your Windows 95/98 or Windows Me system with as much RAM as possible. Imagine your surprise when you see errors after installing half of a gigabyte of RAM. The reason for the errors is the extravagance of RAM has overwhelmed your system into a caching problem. Systems that are equipped with AGP (Accelerated Graphics Port) technology are especially vulnerable.

Solution: It's possible the only fix is to reduce the RAM in your system. However, there are some things to try first. If your system stalls when you reboot Windows and you get the above message relating to the Config.sys and Autoexec.bat files, don't touch these files unless you're absolutely sure about what you're doing. Instead, limit the memory usage to 512MB doing the following:

For Win95, open your System.ini file and find the [vcache] section. If your system has approximately 500MB of RAM, change the MinFileCache setting equal to 51200 and your MaxFileCache to 56320.

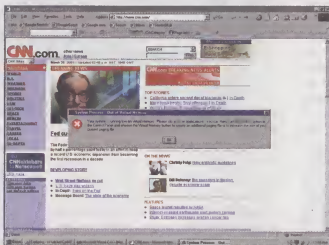
For Win98 and WinMe, change your settings through the Msconfig utility. To execute it, click the Start button, Run, and type msconfig. Click OK and then Advanced. When Advanced Troubleshooting Settings dialog box appears, change the Limit Memory To setting to 512MB. Once you've applied the changes, reboot your system.

■ **An Honest Mix-Up.** Often, fixing a problem requires installing a startup diskette or disc. After rebooting, however, you may receive memory errors. For example, if you use Win95, problems may spring up if you accidentally used a Win98 startup diskette. Below is a solution for such an occurrence.

* **Error Message:** "Insufficient conventional memory to run Windows. Reconfigure your system to increase available memory and try again."

Translation: If you use the wrong startup diskette, some Win98 system files may move to your Win95 machine. OSes don't like to mix and match system files.

Solution: To resolve the problem, label the Win98 startup diskette so you don't confuse it again and put it someplace safe. Insert the Win95 startup diskette and boot it. When you see a command prompt, type sys c: (with c: being the drive where Windows is installed). Take the diskette out, label it the Win95



Sometimes having too many applications open at once will produce an error message, such as the one above, requesting that you close some applications to free up some memory.

startup diskette, and reboot your system. Make sure the startup diskette matches the exact version of Win95 you're using. If you aren't sure, consult this article on Microsoft's support site at <http://support.microsoft.com/support/kb/articles/Q158/2/38.asp>.

■ **Fatty Foul-Ups.** Some memory problems you may encounter are related to FAT (file allocation table) issues. FAT is a process used to format files. Below are examples of problems and solutions.

* **Error Message:** "Out of memory."

Translation: If you run ScanDisk and get this message, you may be running an obsolete hard drive file system. Until the debut of Windows 95 OEM SR2 (original equipment manufacturer Service Release 2), hard drives running DOS and Windows were formatted with FAT16, which could only handle partitions

up to 2GB. The move to newer drives and file systems hasn't always been a flawless one.

Solution: Check if your file system is FAT16 and your hard drive is bigger than 2GB by right-clicking your drive icon in Windows Explorer and selecting Properties. You'll see information about your drive's size and file system, which is usually FAT16, FAT32, or NTFS (NT file system). If you know your drive is larger than is being reported and your file system is FAT16, the underlying issue may be your drive is larger than the OS knows how to use under your current file system. In addition to memory errors, many other problems can crop up because of file system incompatibility.

The fix is getting Windows to see your entire drive. To do this, you need to use a different file system, ideally FAT32 since it supports drives larger than 2GB and offers a performance gain over FAT16. But be careful: although Win95 OSR2, Win98, and WinMe can use FAT32, the original Win95 and Windows NT can't.

To convert to FAT32 in Win98 and WinMe, click the Start button, Programs, Accessories, System Tools, and Drive Converter (FAT32). Click Next, click the drive to convert to FAT32, click Next, and follow the on-screen instructions. If you use Win95 OSR2 or later, any new partition you create bigger than 2GB is automatically marked FAT32. However, this won't help you convert an existing partition.

■ **Too Many Drivers.** If you use Win95 and load too many drivers at startup, your system may not be able to accommodate the burden. Below is an example.

* **Error Message:** "Insufficient memory to initialize Windows. Quit one or more memory-resident programs or remove unnecessary utilities from your config.sys and autoexec.bat files, and restart your computer."

Translation: You may have too many drivers loading when your system starts, requiring you to edit your system files.

Solution: Editing system files isn't the first course of action we recommend. Instead, try cleaning up the hard drive where your swap file resides. Also try minimizing the RAM strain by reducing the number of colors

or resolution you display on your monitor. To do this, right-click a blank area on the Desktop, select Properties, and Settings. Set the resolution to 800 x 600 pixels with only 256 colors. If this cures the memory problem, go back and increase the display settings until you determine where the memory error threshold is.

If you have to remove drivers from your system files, we recommend consulting a qualified technician, as your system needs some drivers to function properly. If you want to remove them yourself, the following files can be removed without much concern for disaster: Doskey, Mouse.sys, Mouse.com, and Ansi.sys.

For changes beyond these, use and save a REM statement at the beginning of the line rather than deleting the entry outright. This will let you simply delete the REM statement to return the system to its previous configuration in case problems occur. You may also want to copy your system files and save them to another drive or directory before you delete any files.

■ **Virtually Little Memory.** Modern OSes can behave as if there's more RAM present than actually exists. They do this by using **virtual memory**, which is an area of your hard drive set aside to handle overflow tasks your RAM can't immediately process. Different versions of Windows have a setting in the Control Panel to set how large you want the virtual memory area, or paging file, to be. Predictably, this can cause errors.

✱ **Error Message:** "Limited Virtual Memory. Your system is running without a properly sized paging file. Please use the virtual memory option of the System applet in the Control Panel to create a paging file, or to increase the initial size of your paging file."

Translation: You may see this error if the size of the paging file is too small. If your hard drive is full, the Pagefile.sys file may not have room to grow. Cleaning up your hard drive may improve performance. However, if you have recently changed the setting, you will need to create a fix.

Solution: Depending on the OS, open the System applet in Control Panel and access the virtual memory tool. In Windows 2000, click the Advanced button, Performance Options, and Change. You'll need to set the values for minimum and maximum sizes of the paging file to zero. Reboot your system and access the virtual memory tool again. Look for the recommended

minimum and maximum sizes and set the values accordingly. Reboot the system again.

■ **Managing Memory Mishaps.** There have always been good and bad RAM brands, and the cheapest variety isn't always the best. You can minimize your risks by asking a knowledgeable dealer which brands have a strong track record and work best with your motherboard.

However, Windows will be forever haunted by memory problems. It isn't Microsoft's

fault when memory developers don't adhere to the guidelines Microsoft has set forth. One of the best places to turn when you need more troubleshooting help is Microsoft's support site (<http://www.microsoft.com/support>). The thing to remember is that memory errors can be solved. With patience, you can have your system performing flawlessly in short order. [E]

by William Van Winkle

Are You Being Beeped?

You've probably heard your system beep at you when you boot it up. These beeps let your BIOS (Basic Input/Output System) tell you when something is wrong. The BIOS is the part of your computer that runs before the operating system loads. Sometimes, these problems are related to memory. What a sequence of beeps mean depends on your BIOS. Below is a list of the original IBM POST Error Codes. If your system follows the IBM model, you can use this list to decode what your BIOS is saying:

No beep—Dead power supply or a critical problem with your system board.

Continuous beep—Keyboard, power supply, or system board problem.

One short beep—Everything is OK.

One long, one short—System board problem.

One long, two short—Display adapter problem.

One long, three short—Enhanced graphics adapter problem.

Two short beeps—There is an error code printed to the screen. Check it out.

Three long beeps—3270 keyboard card problem.

On-screen codes falling between 200 and 299 are memory-related errors. If your BIOS is made by AMI, the beeps denote the following errors:

One beep—Usually means everything is OK, but if there's nothing on the screen, a memory module soldered on the motherboard may be bad.

Two or three beeps—A memory problem. Remove your RAM and plug the modules back in. Clean the contacts and blow out dust from the memory sockets if necessary. If this doesn't work, consider replacing the RAM.

Four beeps—This could mean a faulty onboard timer or bad memory. Test it as though you received two beeps.

Five beeps—The motherboard is detecting a problem somewhere, possibly your RAM. Test as though you received two beeps.

Eight beeps—This can indicate there is possibly bad memory on your video card. Try to reseat

the video card before replacing it.

11 short beeps—You have a cache memory problem. It could be time to replace it, but pull and reseat it first.

One long, three short—Conventional/extended memory failure. RAM may have popped out of place. Make sure the RAM is properly seated.

For Phoenix BIOS owners, there are a few codes to watch for. Beeps come in pulses:

1.4.2 or one beep, pause, four beeps, pause, and two beeps—This means you have bad memory.

2.x.x or any number of beeps after two and a pause—You have a memory issue. Reseat the memory and replace it if necessary.

Input Devices

Get 'Em Back In Tip-Top Shape



When the PC was first introduced to the public, it had a keyboard, and later a mouse, enabling us humans to give input to this miraculous machine. As time went on, the simple input device gave way to bar code readers, digital cameras, external drives, gaming devices, scanners, and more. It is no wonder that with all these devices, Windows 98 or Windows Me will sometimes come to a grinding halt, resulting in an input device error message. Many of the same tools and resources covered in other articles in this issue may be used to resolve error messages involving input devices. What follows are some examples of specific input device error messages that may pop up in Win98 and WinMe, as well as a translation of and a resolution to the error message.

■ Keyboards & Mice. The keyboard and mouse of the PC are the only ways you have to let your PC know what you want it to do. Therefore, keep liquids, paper clips, and dirt away from keyboards and mice. Periodically check to make sure that the keyboard and mouse connections are firmly seated in their respective connectors. Even the most careful

PC user may run into some of the error messages sampled below.

*** Error Message:** NUM LOCK indicator light may not light after you resume running Win98 from standby mode.

Translation: Your PC's BIOS (Basic Input/Output System) is not responding correctly to Win98's instructions to relight the NUM LOCK key. The BIOS of a PC is a set of essential software routines that tests and directs the hardware, starts the operating system, and supports the transfer of data between the hardware devices. This software resides on a ROM chip located on the motherboard.

Solution: Try pressing the NUM LOCK key twice. You may consider checking your PC or motherboard manufacturer's Web site for an updated BIOS. Make sure to follow the instructions carefully for downloading and installing the updated BIOS.

*** Error Message:** "Windows did not detect a mouse attached to the computer. You can safely attach a serial mouse now. To attach a mouse to a PS/2 port, you must first turn the computer off."

Translation: This usually indicates that the USB (Universal Serial Bus) input device registry keys are missing or damaged.

Solution: If you have a PS/2 or serial mouse, install it in place of the USB device. Turn off your PC. Connect the PS/2 or serial mouse and then turn on your PC. Bypass your PC logon by clicking Cancel. When the Desktop appears, click the Start button, point to Settings, click Control Panel, double-click System, and click the Device Manager tab. Right-click any USB mouse entries, click Remove, right-click Computer, click Refresh, and then click Close. Restart your PC and the PS/2 or serial mouse should begin working. (NOTE: If you really need to use the USB device mouse, try reinstalling Win98 or WinMe.)

*** Error Message:** Your new USB keyboard doesn't work after you start your PC.

Translation: This may occur if you plug in the new USB keyboard while the PC is off and your PC is configured to prompt you to log on when you start it. This is because a USB keyboard is not "registered" in Win98 or WinMe until after the operating system starts.

Solution: Click Cancel when prompted to log on. When the Desktop appears, click the Start button, select Log Off, and click Yes. Then log on to your PC when the log on dialog box appears.

■ USB Devices. The variety of USB devices has greatly increased during the past year. It is becoming the connection technology of choice for devices formerly relying on serial, parallel, or SCSI (Small Computer System Interface) connections. Even keyboards and mice, as noted above, have moved into the USB connection arena. Home PC users should note that Win98 Second Edition and WinMe are the operating systems best designed to take advantage of the USB connection. This relatively new connection technology doesn't come without its share of error messages, a few of which we'll point out and help you resolve.

*** Error Message:** "USB hub power exceeded. The hub does not have enough power available to operate XX. Would you like assistance in solving this problem? If you click No, the device may not function properly."

Translation: In this message, XX represents the name of the device you are attempting to use. The message signifies that you have too many devices needing power through the USB port. While it is true that the USB port can daisy chain up to 127 devices and provide power to devices that don't have an external power supply, there is a limit to the power part of the attribute. The error message indicates that you have reached the USB device power-providing limit of the USB port.

Solution: Add an internal USB expansion card or an external self-powered USB hub. Another solution is to just add only self-powered USB devices to the daisy chain.

Some external self-powered USB hubs (\$15 to \$40) currently available include Ark Technologies' UB5142 Hub (<http://www.arkpc.com>), D-Link's DSB-H4 Hub (<http://www.dlink.com>), Iogear's 4-Port USB Hub (<http://www.iogear.com>), and Linksys' USBHUB4 Hub (<http://www.linksys.com>).

*** Error Message:** "A fatal exception 06 has occurred at XX. The current application will be terminated."

Translation: This "blue screen" error message may happen if you press CTRL-ALT-DELETE twice on a USB keyboard in Win98 or WinMe. Trying to restart Win98 or WinMe with the three-finger salute (CTRL-ALT-DELETE key combination) should always be avoided unless the normal shutdown process is not possible.

Solution: Click the Start button, choose Shutdown, highlight Shutdown in the Shutdown Windows dialog box, and click OK. If you have to use CTRL-ALT-DELETE, press them once and in the Close Program dialog box, click Shutdown (or ALT-S if no mouse is available).

*** Error Message:** Your PC will not shut down after you have installed a USB gaming device (only when using Win98).

Translation: The PC "hangs," or stops responding, when you try to shut down

or restart your PC. We had this happen with, oddly enough, a Microsoft Sidewinder Precision Pro gaming device. It happens with Win98 (Win98 Second Edition and WinMe corrected this error) when Norton AntiVirus is installed and/or when Fast Shutdown is disabled.

Solution: Complete the following steps, in this order: Disable Norton AntiVirus, enable Fast

Shutdown checkbox if it is checked. Click OK and OK again and then Exit out of the System Configuration Utility and the Microsoft System Information windows. If your PC still refuses to shut down, just remove the USB gaming device from the USB port before attempting to shut down the Win98 PC.

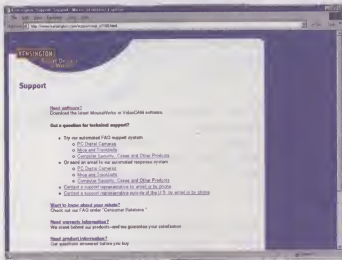
*** Error Message:** "Trap 13 (ODH) - General Protection Fault 0000 ebx=00000001 ecx=760c7a18 edx=0406fe28 esi=00000000"

Translation: The Kensington VideoCam USB camera may cause this error message when you try to capture the video you are shooting. This error detail is usually displayed when you press the ALT-D keys to reveal the details of the Trap 13 error message.

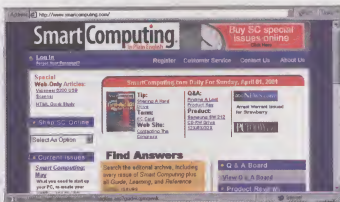
Solution: Go to the Kensington support Web site (<http://www.kensington.com/support>) and download the latest driver software and firmware for the VideoCam. While driver software enables the device to work with the operating system, firmware is software that resides on a ROM chip in the device that controls startup routines and low-level I/O (input/output) instructions for the device. When you update firmware, you are updating the instructions on the ROM chip inside the device.

■ Last But Not Least. Finally, don't forget that we have our own comprehensive support Web site that can serve as a resource for resolving error messages. We invite you to go to the *Smart Computing* Web site ([\[computing.com\]\(http://www.smartcomputing.com\)\) and use our Find Answers section to search through the many articles covering general information, troubleshooting and problem-solving, and upgrading questions. Just type in the error message you're getting and click Search. In addition, if you click Enter Computing Chat in the lower right-hand column of the site and ask a question about your error message, you may receive some direction to solving your Win98 or WinMe input device error message problem. \[E\]](http://www.smart</p>
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by Steven Sweet



Get the latest driver software for the VideoCam digital camera from the Kensington support Web site.



Use the Smart Computing Web site to help resolve error messages.

Shutdown for Windows 98 and, if necessary, disconnect the gaming device from the USB port.

To disable Norton AntiVirus, locate the Norton AntiVirus icon sitting on the Task Bar in the lower right-hand corner of the Desktop, right-click the icon, and select Disable AutoProtect. If that doesn't work, enable Fast Shutdown by clicking the Start button, pointing to Programs, Accessories, System Tools, and clicking System Information. Click Tools on the menu bar and click System Configuration Utility. On the General tab, click Advanced and click to clear the Disable Fast

Diskette, CD & DVD Drives

Recover From Known Media Malfunctions



The odds of seeing an error message related to your disc or diskette drive are slim. That's good news. And the messages that you do see are likely to be caused by relatively minor problems. That, too, is good news. But the best news of all is that most disc and diskette drive error messages have simple solutions. We'll show you some of them right now.

(NOTE: For all solutions, we have used the letter A to represent the diskette drive; C to represent the hard drive where Windows is installed; and D to represent the optical, or disc, drive.)

■ **Diskette Drive Errors.** Most diskette drive error messages signify nothing more than a small problem with the diskette. Replacing or making a minor adjustment to the storage media is the most common remedy to such errors. The time may come, however, when your old drive finally gives up. You should learn how to recognize the signs of this impending doom.

✱ **Error Message:** "Error copying file. Cannot copy XX. The disk is write-protected. Remove the write protection or use another disk." or "Error copying file or folder. Cannot create or replace XX. The disk is write-protected. Remove the write protection or use another disk."

Translation: The computer was unable to write data to the diskette because the diskette is write-protected (set to prevent the acceptance of new data). You must remove the write protection from this diskette so that it can accept new data. XX represents the name of the file involved in the write attempt.

Solution: You have two options for resolving this type of message. Either use a different diskette or remove the write protection. The second option is just as easy as the first. To remove the write protection from a diskette, simply locate the sliding plastic tab on the back of the diskette (you'll find it in the upper

left corner) and slide the tab downward until it clicks shut. This will cover the hole in the corner of the diskette and remove the write protection.

Conversely, if you can't find a tab on the back of the diskette, you can remove the write protection by covering this hole with a piece of tape.

✱ **Error Message:** "The file being copied is too large for the destination drive. If possible, insert a higher-capacity disk."

Translation: The diskette in the diskette drive does not have enough room to accommodate the file or folder you are attempting to copy to it.

Solution: You must either delete some data from the diskette, find another diskette that has enough free space to accommodate the file or folder, or compress the file before copying it to the diskette. Two popular file compression utilities are PKZIP (free; <http://www.pkware.com>) or WinZip (\$29; <http://www.winzip.com>). Refer to the documentation that comes with each utility for specific instructions about compressing a file.

✱ **Error Message:** "Error reading disk in drive A:. Please insert disk XX with serial number XX in drive A:. Press ENTER for OK or ESC to cancel."

Translation: The computer cannot access data from the diskette in the diskette drive. The XX indicates the name and serial number of the diskette on which the data is located.

Solution: Insert the requested diskette into the diskette drive. In most cases, this diskette is the last one you removed from the diskette drive. After inserting the diskette in the diskette drive, press the ENTER key. The error message should vanish from the screen and the computer should function as expected.

If it does not, you need to try something else. Reboot your PC and then put another diskette in the diskette drive and try to access it. Hopefully, you can access the diskette. This would indicate that the original diskette was corrupted.

If you can't access the diskette and you run Windows 9x, then you can try one more solution. Reboot your computer, holding down the CTRL key (in Win98) or the F8 key (in Win95) until the Startup menu appears on-screen. Choose Safe Mode from the resulting Startup menu.

When the operating system loads, right-click My Computer and choose Properties from the pop-up menu. In the resulting System Properties dialog box, click the Device Manager tab and double-click the Floppy Disk Controllers option to view the list of diskette drive controllers on your PC. Highlight the controller for your diskette drive (refer to the users manual or contact the manufacturer if there are more than one and you're not sure which is causing the problem) and click the Properties button. Click the Original Configuration (Current) or Disable In This Hardware Profile option, whichever is available to you, then click OK and reboot your PC.

Try to access the diskette drive (make sure there's a diskette inserted in it). If you can access the diskette, then the problem is probably due to a conflict between the drive and the Windows protected mode (operating mode that supports multitasking and the virtual memory area, among other things). Contact the diskette drive manufacturer or computer manufacturer for further assistance.

The majority of optical (or disc) drive error messages arise from minor mishaps that users can easily resolve.

Otherwise, return to the Device Manager tab of the System Properties dialog box and remove the problematic controller. You can do this by highlighting the diskette drive's controller and clicking the Remove button. Click the OK button when prompted, and then close the System Properties dialog box. Next, open the Control Panel (you can find it by opening the Start menu and selecting the Settings option). Double-click the Add New Hardware icon. Follow the instructions provided by the Add New Hardware Wizard, and then reboot the computer.

That should resolve the issue. If it doesn't, then the diskette drive is probably defective and needs to be replaced. Call the drive or PC manufacturer before buying a new one, however, just to see if it has a proprietary fix you can try.

■ **Optical Drive Errors.** Few computer users have the technical expertise to troubleshoot serious problems with their CD or DVD drives. That's OK. The majority of optical (or disc) drive error messages arise from minor mishaps that users can easily resolve.

✱ **Error Message:** "Error reading CD-ROM in drive D:." or "Error reading CD-ROM XX with serial number XX in drive D:." If the CD-ROM is still in the drive, it may require cleaning."

Translation: The computer cannot access data from the CD or DVD in the disc drive.

Solution: You will receive this type of blue-screen error message if you press the drive's eject button while the computer is reading data from the disc. To resolve the issue, make sure the disc is seated properly on the drive tray, and then press the eject button or give the tray a gentle push to retract the tray into the drive. The error message should disappear as soon as the drive spins up.

If the error message doesn't disappear or if you received the error message while the disc was still in the drive, then the problem is due to a dirty or damaged disc. Reboot the PC and remove the disc from the drive. Look at the underside of the disc. A disc surface marred by dust, fingerprints, or light scratches can be polished clean with a soft dry cloth. Just make sure you wipe from the inside of the disc to the outside in straight lines. Scrubbing in circular motions can damage the surface.

Never use a disc that has deep scratches, is cracked, or appears to be warped. Such a disc can damage the drive beyond repair.

✱ **Error Message:** "No valid drive/disc found"

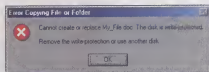
Translation: The computer cannot recognize the audio CD in your disc drive. This message is most likely to occur after you have used a CD-ROM in the drive.

Solution: This error message is the result of a known bug with some Windows applications, such as Windows Media Player 7. The only solution is to contact Microsoft technical support at (800) 936-5700 for users of Win95; (425) 635-7222 for users of Win98; or (425) 635-3311 for users of WinMe. The support technician will send you a free fix that you can install on your system.

✱ **Error Message:** "XX is not accessible. The device is not ready." or "Insert disk. Please insert disk into drive XX."

Translation: The computer cannot find any storage media in the drive (described here by XX) that you are trying to access. Consequently, the

computer cannot retrieve data from or copy data to the storage media. This type of error



Write-protection errors similar to this one can be resolved simply by repositioning a plastic tab on the diskette.

message occurs with diskette and disc drives alike.

Solution: The most common reason why you'll see this message is if you try to access an empty drive. When the error message

appears on-screen, insert a diskette or disc into the drive and click the Retry button. The message should go away.

The other reason you will see this error message is if you try to run a DVD on a CD drive. The CD drive, which may be of the CD-ROM, CD-R (CD-recordable), or CD-RW (CD-rewritable) variety, can't recognize the disc so it behaves as if the disc wasn't even there. Unfortunately, there is no way to get a CD drive to read a DVD. Remove the disc from the drive and start planning an upgrade to a DVD-ROM drive.

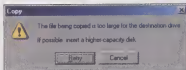
✱ **Error Message:** "Explorer caused an invalid page fault in module MFC42.DLL at 01775f64092c."

Translation: The operating system attempted to access a file that was nonexistent, in use by another application, or corrupt. The file in question is linked in some way to DirectCD, a CD recording utility offered by Roxio (<http://www.roxio.com>).

Solution: Try reinstalling your version of DirectCD (you'll probably find it located with your CD-R or CD-RW software). If you continue to receive this error message after reinstalling DirectCD, contact Roxio at (408) 934-7283 for more assistance.

✱ **Error Message:** "Buffer under-run error XX"

Translation: The buffer is an area of memory that holds data temporarily while it travels between two storage devices. Data transfers to the buffer from the hard drive or another storage device, such as a Zip drive or tape drive. The buffer then directs the data to the recording device, which is a CD-R or CD-RW drive in this case. The buffer must feed data to the drive at a uniform speed that is optimized for



Trying to copy a large file to a diskette is likely to produce this error message. Keep in mind that the diskette loses some storage space during formatting. A 1.44MB diskette, for instance, can accommodate only 1.38MB of data after it is formatted.

recording performance (the exact speed varies from drive to drive). If the buffer is too slow, the drive cannot write data to the disc and this error message pops up on-screen. The exact wording of this error message varies, depending on the recording software you use. XX represents any additional text you may see with the message.

Solution: "Buffer under-run" errors can have many causes. Consequently, the best way to troubleshoot them is to address the most common of these causes by taking several preventative measures. For example, you should close all applications before running the CD recording software. Multitasking during a recording session steals valuable memory space from the recording software, which in turn threatens the quality of the recording.

The next measure you can take is running Disk Defragmenter and ScanDisk. These utilities improve the operating efficiency and effectiveness of the PC's hard drive. To access these utilities, you should open the Start menu and burrow through the Programs, Accessories, and System Tools folders until you find them. Reboot the PC after running these utilities, and then try using your recording software again.

Third, you should check the viability of the data you're recording. Trying to copy an open file to a CD-R or CD-RW drive may prompt a "Buffer under-run" error message, as might any attempt to copy data from across a network. You should check the viability of your system as well. Make sure it has updated device drivers and that it has the power to support a CD-R or CD-RW drive. Some older computers don't. You'll be fine as long as your computer meets the system specifications required by the recording device. You also might want to try using a different brand of storage media. Not all discs are created equal.

Finally, don't push your system to the max. Let your PC warm up for an hour before recording data to a CD-R or CD-RW drive. Set the recording speed a few notches lower. Don't try to copy more than 10,000 files at once. These steps will reduce the amount of stress on the buffer.



DirectCD might prompt an invalid page fault error. If so, you should reinstall the application. You'll probably find it with your CD recording software, such as Roxio's Easy CD Creator 5.

If these measures don't resolve the problem, you can try reconfiguring the computer's buffer settings. Right-click My Computer and select Properties from the pop-up menu. Click the Performance tab in the System Properties dialog box, and then click the File System button listed under the Advanced Settings heading. When the File System Properties dialog box appears on-screen, locate the Read-Ahead Optimization setting and slide it to None. Click OK, close out of the System Properties dialog box, and reboot your PC.

*** Error Message:** "No compatible CD recorder found"

Translation: The CD recording software cannot communicate with your CD-R or CD-RW drive.

Solution: Recognition error messages like this happen for three reasons: one, the disc drive's device drivers are outdated; two, the drive's cables aren't connected properly; or three, the drive has malfunctioned and needs to be replaced.

You can easily remedy the first cause. Simply pay a visit to the drive manufacturer's Web site and download the latest drivers for your drive. Follow the instructions provided with the drivers to install them, and then reboot your PC.

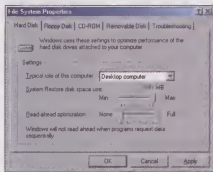
The second cause isn't so easy for you to remedy, but it can be resolved. You need to open your PC case (being careful to ground yourself beforehand by touching something metal due to static electricity discharge) and make sure that the drive's data cable (a wide ribbon cable) and power cable (several colored wires attached to a single connector) are seated snugly in their sockets. You also should check

to see whether the disc drive is configured as the master (primary) drive on the secondary IDE (Integrated Drive Electronics; a standard interface for connecting drives to a motherboard) port. If it isn't, you should configure the drive so that it is. Refer to the drive's users manual for the exact instructions on doing so.

You won't be able to fix the third cause. Instead, you'll need to return the drive to the manufacturer for repair or replacement. If the warranty on the device has expired, you will have to buy a new drive.

■ No Message? Big Trouble. You may have noticed that the error messages described above refer primarily to relatively minor problems. There's a reason for that: the big problems are unlikely to raise an error message at all. The drive will simply stop working, and you'll have no recourse but to replace it with a new one. So this is one case where getting an error message is definitely better than not getting one. **[E]**

by Jeff Dodd



Setting the Read-Ahead Optimization to None may help you eliminate the "Buffer under-run error XX."

Multitasking during a recording session steals valuable memory space from the recording software.

Printers

Different Output Devices Share Similar Reasons For Messing Up



Not many years ago, the only messages available to printer users popped upon the LCD strip on the printer. If they didn't have the error memorized by heart, users needed to look up the message number in the manual to find out what the problem was. Not long before that, printer error messages didn't really exist because there was no printer feedback to the computer and no LCD panel to provide the information. Yet most of us got along quite well, in a poky sort of way.

Today, we get error messages easily enough. They likely come in the form of a voice from our speakers or a message on our monitors, often both. Troubleshooting is easier, and months may go by when any kind of check isn't needed. Considering the drop in cost for computer printers, that's truly amazing.

Systems now have a control panel and a short list of checks, beyond what crops up in routine troubleshooting, on almost every printer available. That control panel may flash on your monitor or messages pop up on

the printer near the power and auto feed switches to tell you what's wrong. You also have instant access to the Printer folder in My Computer, where a great deal of information is available.

■ **Basic Troubleshooting.** Regardless of all the high-tech construction in today's printers, the majority of problems stem from some simple cause, such as no paper in the feeder or no power to the printer.

✱ **Error Message:** "No communication with the printer."

Translation: Printer driver commands fail to reach the printer.

Solution: Check to see if the On switch is actually on. If no ready light shows, check the power cord at both ends. If that doesn't work and no light comes on, check the circuit breaker on your service entrance panel. If the breaker is blown, then reset it. If it blows again immediately, you could have a circuitry problem and may want to contact an electrician. When you have

an active light on the printer control panel, your printer should work.

If you still get the error message, check your cabling. Cables must be firmly attached at both ends. Parallel cables need IEEE 1284 complaint to support bi-directional printing.

For inkjet printers, lift out the cartridges and see if the shipping and sealing tape has been removed. On laser printers, pull out the toner cartridge and see if you not only removed the tape but also any plastic locks.

✱ **Error Message:** Smudged prints, signaled visually by the prints themselves.

Solution: Inkjet prints smudge if they're handled before the ink dries. If black and white type looks blurry, check to see the paper feeds directly out of the printer. Inkjet printers are notorious for smearing ink. This is of lesser importance with laser printers because the toner is burned to the paper with no need for drying.

The paper used may make a difference as well. Printing 600dpi (dots per inch; a measure of print resolution) on glossy paper wastes wasting ink, or toner. Inversely, using a 2,400 x 1,200 dpi setting with plain copy paper is counterproductive.

✱ **Error Message:** "The printer has no paper."

Translation: This message means the printer is not feeding paper.

Solution: If you have paper in the tray, use the built-in alignment guides on your printer and see if the movable paper guide holds snug (but not tight) against the side of the paper stack. If the printer is on a flat, level surface, the above should work. If your printer still refuses to print, make a new start by looking at the paper tray, removing the paper, and looking to see if the lower (feed) ends are inadvertently turned up. It only takes a small turned up corner piece to prevent correct feeding.

If regular paper feeds but envelopes or special papers don't, read the manual directions to see that you're making any needed changes to settings. Some printers need a release of pressure in the paper path; others don't. Your printer might not support the size you want to print, whether that be oversized paper or envelopes.

The Menu tab displays print quality selections, ranging from the maximum dpi the printer supports to type of stock, from plain paper to card stock. Select the correct stock thickness for easier feeding. Feeds work best when users

specify paper. Users find the Menu tab in different places depending on the printer, but check the print driver for it first. Do this by clicking the Start button, pointing at settings, and then opening Printers. Right-click your printer's icon and select Properties. Most useful commands for your printer, regardless of the make or model, reside in the printer's Properties.

✱ Error Message: "Printer has a paper jam."

Translation: Paper has jammed at some point in the feeding.

Solution: Remove the paper from the tray. If a whole piece of paper jammed, shut off the power, open the path cover (refer to owners manual if cover isn't obvious), and remove the paper, pulling firmly but steadily. Do not jerk the paper. Once you have cleared the jam, turn the printer back on, reload paper, and resend the print job. If the printer feeds in more than one sheet of paper, there may also be a jam.

✱ Error Message: "Color cartridge is low."

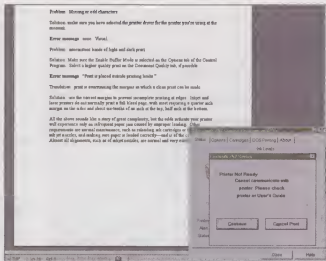
Translation: Colors print abnormally or may be faded due to lack of ink.

Solution: Replace the color ink cartridge. If you get noticeably different colors on paper than what appears on your screen, your color cartridge is running dry. Some paper brands affect picture quality differently and can show some images as faded. Try another type of paper to see if the paper style is your problem. If you're using a parallel port setup and have other devices in series, remove them, and reattach the printer. Try to print again.

✱ Error Message: "Black ink cartridge is low."

Translation: Black print and graphics are faded from an inkjet printer.

Solution: Change the black ink cartridge. If your prints are faded or if your cartridge is low, bordering on empty, or clogged, nozzles in the cartridge are affecting the dispersion of ink. Clean the nozzles using clean paper and the Clean Print Nozzles (or similar) command. This command come with the print driver and installs on the PC with the driver. Access it by clicking the printer icon on the Taskbar. In the

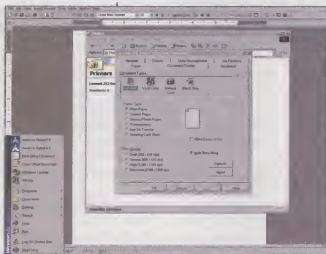


When the Printer Not Ready dialog box appears, check to see if the printer is turned on. Next, check power cables to see if the computer-to-printer cables are connected on both ends.

window that pops up, click the Cartridges tab to access the Clean Print Nozzles option.

Check the print quality by running a test page. Your manual tells you how your printer executes this. If print quality is still bad or uneven, remove the cartridge and reset. Try printing again. If quality remains poor, use a lint-free, soft rag to gently wipe both cartridge nozzles and cartridge contacts.

✱ Error Message: "Black (or Color) cartridge needs alignment."



The choices for document types make a difference in quality, but the biggest quality difference comes from selecting the correct paper type and the proper print quality. Standard print quality of 600 x 600 dpi gives good speed and very readable text. Draft quality saves Ink and reduces printing time. The two higher resolutions are best for drawings and photographs.

Translation: A cartridge has been removed from the printer and replaced.

Solution: The inkjet printer drivers have an Align Nozzles command for when nozzles are cleaned or cartridges changed. Print a test page. This function prints a page of vertical lines, and then you use the dialogue box to adjust the lines. If print quality is unsatisfactory afterward, pulling another test print under the Align Nozzles command allows a quick check.

■ Pauses in Printing.

Sometimes a user doesn't see an error message, but the printer doesn't work. Double-click the My Computer icon on the Desktop.

Open the Printers folder, and right-click your printer's icon to bring up a menu relating to your printer. For example, if your printer does not print but all cables are connected and no error messages pop up, look for a Pause Printing option in that menu and see if it is selected. If it is, deselect it.

✱ Error Message: "No driver for the printer" or "Wrong driver for printer."

Translation: The driver file is missing, incorrect, or corrupted.

Solution: Install the correct driver. Either install the printer's software again or download a new driver from the company's Web site. Especially check the Web if you have changed operating systems as companies frequently update their drivers. Usually, URLs (uniform resource locators) are listed with the printed material supplied with a new printer.

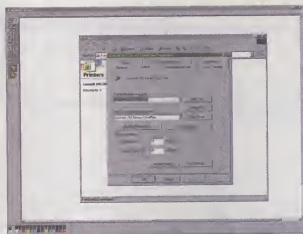
✱ Error Message: "Cannot find printer."

Translation: The correct cable may not be connected to the correct port.

Solution: To solve this, open My Computer and double-click the Printers folder. Right-click your printer's icon and select Properties. The Properties window displays the port the printer uses, the driver used, and

spool and port settings. Under most circumstances, users may change the port used or the driver. Check that the correct port displays in the Port tab.

Click the Start button, select Settings, and open the Control Panel. Double-click the System icon and select the Device Manager tab. You will see the port used for your printer, if it is properly connected. This must match the port specified in your Printers folder. Your printing results are nonexistent if you've set the port to Com 3 and installed a parallel cable or USB cable.



The Control Program for the Lexmark Z52 shows tabs and selections. The Details tab shows which printer port is designated. This port must match the one being used by the computer.

See that the paper is loaded straight and is not wrinkled. Use a lower resolution, down to 600 x 300 for regular ink jet or copy paper.

* **Error Message:** Logos show up in printed photographs.

Translation: The manufacturer's imprint shows through the photographs.

Solution: Load the paper properly when working with photo paper. For inkjets, the tabbed and perforated edge goes away from the operator with the glossy side up. Laser printers have varying paper paths so consult the manual when using photo paper with them.

* **Error Message:** Colors don't look right.

Translation: The color rendition on the print shows up different than what you desire.

Solution: There are numerous ways to change hues in programs, but the simplest will be to select Print from the File menu of whatever program you're working on. In the Print window, click the Properties button next to the Name drop-down menu at the top. Within the Printer Properties window, you should be able to choose the print quality. For example, the Lexmark Z52 offers Automatic, Vivid, and Normal. Look to see which is selected and then select another. Automatic usually serves most jobs, but you may prefer Vivid or Normal. Otherwise, when checking out a printer to make sure you're getting the response you need, always check the most obvious possibility first. Overlooking the obvious is one of the largest faults of error checking.

All the above sounds like a story of great complexity, but the odds indicate your printer will experience only an infrequent paper jam caused by improper loading. Other requirements are normal maintenance, such as reloading ink cartridges or toner, aligning ink jet nozzles, and making sure paper is loaded correctly with the correct type of paper. Almost all alignments, such as those of inkjet nozzles, are normal and very easily carried out. [E]

by Charles Self

* **Error Message:** Characters aren't printing or odd characters are appearing.

Solution: See if you have selected the printer driver for the printer you're using. Do this by opening the Printers folder in My Computer and seeing which printer is the one selected. The printer driver currently online will have the symbol next to it of a check mark in a dark circle. If it is a printer other than the one physically connected, change the setting to the printer you want to use. If you already have the correct printer driver selected and you're still getting odd characters or characters disappear, reinstall the driver. The probable cause of the difficulty in this case is a corrupted driver. If that still doesn't work, download and install a new driver from the manufacturer's Web site.

* **Error Message:** "Print is placed outside printing limits."

Translation: Print is overrunning the margins in which a clean print can be made.

Solution: Use the correct margins to prevent incomplete printing at edges. Inkjet and laser printers do not normally print a full-bleed page, with most requiring a quarter-inch margin on the sides, about six-tenths of an inch at the top, and a half-inch at the bottom. Setting margins is not the job of the printer. Use whatever application you are working with—Microsoft Word, Adobe Photoshop, QuarkXPress, for example—to make certain you have at least quarter-inch side margins, a half-inch bottom margin, and a slightly bigger top margin. A problem with margins is apt to be greater with programs designed to output directly to commercial printers, where full-bleed (all the way to the paper edges) is often used.

* **Error Message:** "Printer lacks memory to complete the print."

Translation: The print section is larger than the memory bank in the printer can handle, even when backed up by the Control Program.

Solution: Stop printing. Then, either break the print job down into more manageable segments (if possible) or add memory to the printer.

* **Error Message:** Prints or transparencies stick to each other.

Translation: Glossy photos, or transparencies, have a tendency to attach to one another when sitting on top of each other in the print tray.

Solution: Keep an eye on the printer and remove each transparency or glossy from the tray as it exits the printer.

* **Error Message:** Prints or transparencies print blurred.

Translation: Blurred lines or spots appear on glossy prints or transparencies where the ink has smudged.

Solution: Remove prints from the tray as they exit the printer.

* **Error Message:** White lines show up on photos or transparencies.

Translation: Although usually faint, white lines can run across the face of the print job.

Solution: Make certain the printer is on its highest possible setting (1,200 x 1,200 or 2,400 x 1,200 dpi, for example).

* **Error Message:** Type and graphics print too dark on standard paper.

Translation: Some letters or small graphics are unintelligible because of dark print.

Solution: Make sure the Paper Type setting matches what is loaded in the printer.

Scanners

What To Do When Glitches Crop Up



All of us who have ever dealt with a piece of computer hardware know that errors are inevitable. Luckily, most of these problems are easily solved. As with any piece of electrical equipment, chances are that when your scanner doesn't work, the problem is probably as simple as a loose cable. However, when you've checked the connectors and your scanner still doesn't work, it's time to investigate the problem further.

We've sourced some typical errors you may encounter if you are using one of the major brands of scanners and we've come up with a range of solutions that should get you up and running again.

■ **New Drivers, Please.** Often the problem with a scanner is resolved by obtaining new drivers for the scanner. A driver is the software that controls the link between the scanner and the computer. When bugs are discovered in the driver, the manufacturer will generally fix the program and release a new version. Manufacturers also routinely create new drivers for new OSes (operating systems), so any issue you're experiencing with your scanner as a result of upgrading Windows, for example, may be solved by

obtaining an updated driver. Here are a few problems that will be solved this way.

Kodak Snapshot Photo Scanner 1

* **Error Message:** "Cannot connect"

Translation: This error message appears when you are running the software for your Kodak Snapshot Photo Scanner 1. It can be caused by a number of issues, including lack of power to the scanner, problems with the scanner's cable connection, an improperly set parallel port, or issues with the software installation.

Solution: Begin by disconnecting any other device which is plugged into the pass-through port, such as a Zip drive or a printer, and attempt to start the software again. If problems persist, check the scanner connection to your computer to make sure the pins are straight and it is firmly connected (replace the cable if any pins are bent). Also check the connection to the electricity socket. If the scanner still causes an error, download the latest communications driver for the scanner from Kodak's Web site (<http://www.kodak.com/global/en/service/software/snapshotDrivers.shtml>) and install it according to

instructions you'll find at the Kodak PhotoDoc Color Scanner FAQ (Frequently Asked Questions) page (<http://www.kodak.com/cluster/global/en/service/faqs/faq109.shtml>).

Acer USB scanner

* **Error Message:** "Scanner not found"

Translation: This error occurs if you are using an Acer USB (Universal Serial Bus) scanner and you upgrade to Windows Me. This problem is caused because WinMe uses industry standard TWAIN files (Technology Without An Interesting Name; an interface that makes scanners compatible with any software that supports the TWAIN standard), and Acer MiraScan v3.3 and earlier device drivers aren't compatible with this standard.

Solution: You must upgrade your scanner's drivers to resolve the problem. You will find the drivers at Acer's scanner drivers downloads page (http://www.acerperipherals.com/drivers/imaging_drivers.html). Download the driver for your scanner and double-click the zip file you've downloaded to extract the contents. Click Setup and follow the prompts to install the drivers; if you're unsure which options to choose, select the default settings and click Next.

Epson Perfection

* **Error Message:** "Scanner not ready. Check that the scanner is turned on." or "Illegal function call."

Translation: This error occurs when you are using the Epson Perfection 636 (SCSI [Small Computer System Interface]) Scanner and WinMe. It occurs when the scanner is installed and you try to scan an image. You will see this error because the Epson version 3.0 TWAIN software is not compatible with WinMe.

Solution: To resolve this issue, you will need to upgrade to version 3.40 or later of the TWAIN software, which you can download from the Epson Web site at <http://support.epson.com/hardware/scanner/exp636/filelibrary.html>.

■ **File & Other Issues.** Files that are missing or that don't exist in the correct versions on your computer can be the cause of many other scanner problems. Sometimes, even your printer's settings can be the culprit. Here is a sample of the other types of issues you may face.

UMAX Scanners
(all models)

***Error Message:** Includes the following:

- "Urlmon.dll is linked to a missing export file Shlwapi.dll."
- "This program has performed an illegal operation and will be shut down. If the problem persists, contact the program vendor."
- "The procedure entry point StrnCAtA could not be located in the dynamic link library Shlwapi.dll."
- "The SHELL32.DLL file is linked to missing export SHLWAPI.DLL: SHRegGetValueA."
- "C:\Program Files\PhotoDeluxe HE 3.0\PSD3.exe. A device attached to the system is not functioning."
- "PD3 caused an invalid page fault in module at 0000:0000001c."

Translation: One or another of these errors may occur when you attempt to load the Adobe PhotoDeluxe Home Edition 3.0 software that came with your UMAX scanner. The problem is caused by PhotoDeluxe checking one of two folders for the Urlmon.dll and Shlwapi.dll files. If the versions of these files in these folders are different, PhotoDeluxe will give you this error.

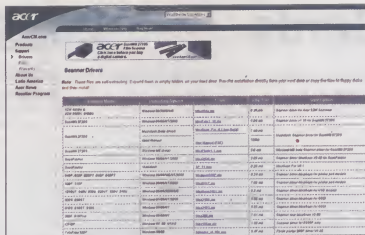
Solution: To solve this problem, you must rename the `Urlmon.dll` and `Shlwapi.dll` files in the Program Files\ProgramDex HE 3.0 folder. To do this, click the Start button, Find, Files or Folders. In the Named area, type `shlwapi.dll` and click Find Now. Right-click the copy of the file located in the Program Files\ProgramDex folder, choose Rename and change the file's name to `Shlwapi.old`. Now repeat this process to locate the file `urlmon.dll` and rename it to `urlmon.old`. Restart your computer.

ScanMaker X6 USB

*** Error Message: "T037 Error"**

Translation: This error occurs if you are attempting to scan an image in color using the ScanMaker X6 USB scanner. The problem is caused by a lack of sufficient drive space available to process your image.

Solution: You can solve the problem by making more room on your drive for the scan. For example, you might remove some unwanted



If you experience problems with your Acer scanner after upgrading to Windows Me, you can solve them by downloading updated drivers from Acer's Web site.

files, empty your Recycle Bin and Temp folder, and/or remove any unnecessary programs. An alternate solution is to reduce the size of your scan by altering the scanning frame to a smaller size or by decreasing the resolution.

Visioneer Scanner

*** Error Message:** "Error writing to Lpt1"

Translation: This error occurs if you are using Win95 or Win98 and version 6.x of the scanning software with a One Touch 8600 scanner. You may see this error when you press the Copy/Print button to scan a document.

Solution: To solve this problem, you must alter your printer's Transmission Retry Time setting. Click the Start button, Settings, Printers, and right-click your printer's icon and choose Properties. Click the Details tab and, in the Timeout Settings area, change the Transmission Retry Time to 120 seconds, click Apply, and then click OK. If the error still occurs, repeat the process and click the Start button, Settings, Printers. Right-click on your printer's icon and choose Properties, Details again. Click Spool Setting, change the Spool Data Format to RAW, click OK, and close all open windows before restarting your computer.

Hewlett-Packard Scanner

*** Error Message:** Includes the following:


- "Scanner in use by unknown application"
- "Sorry, could not access your scanner; your scanner is currently being accessed by another application. Please wait for that"

other application to finish and try your scanner again."

Translation: One or both of these errors may occur when you are attempting to open your HP PrecisionScan LT scanning software in Win98 or WinMe to scan using an HP ScanJet scanner. Alternatively, the software may simply hang without an error message being displayed. The most common cause of the problem is that a required file is missing, although some games that run in the background have also been found to cause this issue.

Solution: To see if the missing file is the issue, press the

CTRL-ALT-DELETE combination and check for the entry STIMON (Still Image Monitor) in the list. If this isn't in the list, this is the cause of the problem. To resolve the issue, click the Start button, Run, type MSCONFIG, click OK, and click the Startup tab. Look for STIMON in the list and, if it is there but unchecked, enable its checkbox and choose Apply, OK, and Yes to reboot your computer. If it isn't in the list, add Stimon.exe to the Startup group by clicking the Start button, Settings, Taskbar & Start Menu. Click the Start Menu Programs tab and click Add. Type C:\Windows\System\stimon.exe and click Next. Scroll down and select Startup from the list and click Next and then Finish. You should then repeat this process for the file Hpsjvxd (type C:\Windows\System\hpsjvxd.exe for this file). Don't add the file Hpsjvxd if you have an HP ScanJet 4200C Scanner. Restart your computer. If you think a game may be the problem, uninstall any games that run in the background (such as Head Rush) and try the scanner again.

■ **Technical Support To The Rescue.** If your particular scanner or error isn't listed here, begin by writing down the exact error message you have encountered and note the brand and product number of your scanner. Now visit the Web site for the company that manufactured the scanner and check its support section. If you still can't locate the solution to your problem, phone or e-mail the manufacturer's technical support. 

by Helen Bradley

Sound Cards

Fine-Tune Audio Applications & Files To Settle Conflicts

The difficulty in troubleshooting sound cards is that not all error messages will be obviously tied to using the sound card, and a variety of generic problems (general protection faults, illegal operations, and other cryptic messages) can surface as the result of a sound card problem without directly indicating such.

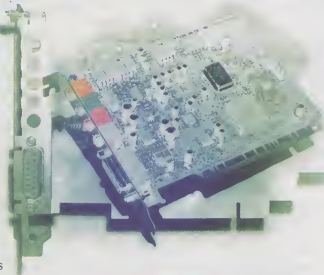
The best defense against audio error messages (and most Windows problems) is staying current by regularly checking for new drivers on the Web sites of vendors, as well as downloading patches and service packs for Windows on a routine basis.

* Error Message: "Out of bandwidth"

Translation: This can occur when playing a high-quality audio file through a USB (Universal Serial Bus) speaker system. USB speaker systems essentially have an audio card built into them. In addition, USB devices typically "reserve" bandwidth for their use, but because USB speakers do not, they receive bandwidth "on demand." If there isn't enough bandwidth to allocate it to the speakers, this error occurs.

Solution: You can view how much bandwidth a USB device uses by right-clicking My Computer and selecting Properties. Click the Device Manager tab, followed by View Devices By Type. Double-click Universal Serial Bus Controllers, followed by the entry for the USB Controller. Next, choose the Advanced tab and click the Bandwidth Usage button.

One solution for correcting bandwidth problems is simple: disconnect extraneous USB devices (such as joysticks, scanners, and others). Another solution is to purchase an additional USB controller and attach the speakers to it (giving them sole access to all of its bandwidth). The final option is to play the audio file at a lower playback quality or use a lower-quality version of the file.



* Error Message: "A Fatal Exception 0E has occurred at 0028:xxxxx in VXD IOS(04). The current application will be terminated."

Translation: This error occurs if a driver file for Sound Blaster 16 sound cards is (for whatever reason) copied and/or placed in the Windows\System\Iosubsys folder.

Solution: The easiest way to resolve this problem is to rename the Sb16.vxd file in the Windows\System\Iosubsys folder. Restart the computer in Safe Mode (usually by pressing F5 during the boot process). Once in Windows, click the Start button, Find (or Search), and Files Or Folders. In the Named field, type Sb16.vxd, and then click Find Now. The Sb16.vxd file should appear in the list of found files. Right-click it, select Rename, then rename the file by typing sb16.old, and press ENTER. Restart your computer.

* Error Message: "MMSYSTEM326 No wave device that can play files in the current format installed." or "Windows cannot play XX file. It may be damaged or may not be a valid sound file. Replace the file and try again."

Translation: This error can occur if an audio codec (a program that compresses and decompresses specific types of audio files) is not installed (with XX indicating the actual name of the file). This particular type of error occurs if the Fraunhofer IIS MP3 (MPEG Layer-3) codec

is not installed, and a sound file converted from the .MP3 format to the .WAV format is played.

Solution: Probably the easiest solution is downloading and installing the latest version of Microsoft's Media Player, presently at version 7.0. Another solution (for versions prior to 7.0) is to use Add/Remove Programs to install Microsoft NetShow Player 2.0. Click the Start button, Settings, Control Panel, and double-click Add/Remove Programs. Click the Windows Setup tab, then Multimedia, and Details. Select the Microsoft NetShow Player 2.0 checkbox, click OK, and then click OK again.

* Error Message: "Cannot play back the audio stream: no audio hardware is available, or the hardware is not responding"

Translation: This error usually means that there is a problem with the sound card, usually a hardware resource conflict. It may also occur if the sound card drivers have not been installed.

Solution: Right-click My Computer and select Properties. Click the Device Manager tab and select View Devices By Type. First, check for a yellow exclamation point (!) next to the sound card listed under the Sound, Video And Game Controllers entry. If there is a yellow exclamation point, it usually means there's a resource conflict between the sound card and another device. Right-click the entry for the sound card, click Properties, and choose the Resources tab. If possible, uncheck Use Automatic Settings and click the Change Setting button to change the IRQ (interrupt request line) and I/O (input/output) address the sound card is using. Note that this may not be possible, depending on the hardware. If this is the case, you may need to physically move the sound card to another PCI (Peripheral Component Interconnect) slot in the computer case or contact the hardware manufacturer for assistance.

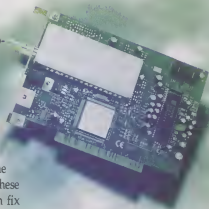
■ **Sound Check.** The errors described here are hardly all-encompassing, but then again, keeping your drivers and media tools (such as Windows Media Player, RealAudio, DirectX, and others) up to date can usually avoid most problems. Don't be afraid to check vendor FAQs (frequently asked questions) and search their sites for information. Errors that can't be corrected by basic maintenance may indicate a specific conflict between the sound card and something else on the system, or it could potentially indicate faulty hardware. [E]

by P. Bryan Edge-Salois

Video Cards

Adjust System Display Controls & Update Drivers For Visual Harmony

Because we interact with our computers visually, video-related problems usually make themselves immediately known, whether they result in an error message or not. Certain problems, however, may not generate an error message until specific actions are performed. Fortunately, most problems with video cards (also called display adapters) can be tied to the video drivers themselves, and reinstalling these drivers or installing updated drivers can fix most conflicts. However, not all error messages fall into this category. We'll cover a variety of errors and provide potential solutions to alleviate your system's display struggles.



*** Error Message:** "Your display adapter is not configured properly."

Translation: This is one of the most common display-related error messages. It is usually the result of a system that does not have the correct display drivers installed for the video card.

Solution: Installing the proper (and most recent) video drivers is the easiest solution for this problem. It's generally best to download the latest drivers by visiting the site of the system manufacturer (if the video card came with the computer model) or video card manufacturer.

*** Error Message:** "XX caused a general protection fault in module DIBENG.DLL"

Translation: This error (with XX representing the program name) can occur in Windows 95, Windows 98, and Windows Me. All this error really means is that the installed display driver is incompatible with the video card.

Solution: Again, the best solution is to determine the exact brand and model of the installed video card and download the latest drivers from the manufacturer's Web site. If the video card came with the computer (such as with a Dell or Gateway), you can probably download the driver from the OEM's (original equipment

manufacturer's) Web site. One method for determining the exact model of your video card is to watch the monitor when the system boots up. The video card usually displays a brief brand, model, and BIOS (Basic Input/Output System) number in the upper left corner.

*** Error Message:** "Error loading GDI.EXE. You must re-install Windows."

Translation: This error can occur if the Fonts folder (at C:\WINDOWS\Fonts) is moved, renamed, or deleted. The GDI (Graphical Device Interface) then fails when it cannot load fonts for display.

Solution: Two solutions for correcting this problem are: 1) reinstall Windows; or 2) re-create the Fonts folder in the C:\WINDOWS directory and extract the files from the Windows installation CD-ROM. This second procedure is not difficult, but the commands for doing it for each operating system (Win95, Win98, and WinMe) would require more space for explanation than we have. The exact instructions, however, can be found at Microsoft's support site at <http://support.microsoft.com/support/kb/articles/Q146/9/04.asp>.

*** Error Message:** "Invalid VxD dynamic link call from VPOWERD(06) + 000008D9 to device VMCPD Service"

Translation: This error can occur if the Vmcpd.vxd file is replaced with an incorrect version. This problem is particular to certain

versions (1.02) of Diamond's setup program, which are included with its FireGL 1000 Pro video cards (although it might occur with other systems, too).

Solution: Unfortunately, removing and reinstalling Diamond's drivers won't correct this issue. To resolve the problem, locate the Vmcpd.vxd file in the Windows\System\Win32 folder. Then right-click it and rename the file as Vmcpd.old. Once you restart the computer, the problem should be corrected.

*** Error Message:** "An error occurred while Windows was working with the Control Panel File C:\Windows\System\Desk.cpl."

Translation: This error usually occurs as the result of installing retail Diamond TNT Video Card drivers on a system that comes equipped with an OEM version of that card (such as many Dell computers, for example).

Solution: There are two solutions for this. If the system is in fact a Dell computer, you can download and install the latest drivers (such as file name 550255-9x.exe) from Dell's Web site. Alternately, you can try to fix it by editing the Registry. We must warn you, however, that editing the Registry incorrectly can cause severe problems and there is no "undo" button. That's why many recommend it as a task for experienced users.

If you decide to edit the Registry, click Start, point at Run, type `regedit` in the Open field, and click OK. Find the following key: HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Controls Folder\Display\Shell\PropertySheetHandlers. Right-click the Diamond D3D Extension, click Delete, and then click Yes to confirm. Repeat these steps for the folder named Diamond TV Out Extension as well. Close the Registry Editor and then restart Windows.

■ That's A Wrap. Although the error messages described here are hardly exhaustive, they do illustrate a wide range of causes for errors related to video cards. When troubleshooting any error, write down its exact message whenever possible, and make a note of the steps you performed just prior to the error. Then go online to check the support Web pages for your particular computer system, video card manufacturer, or the Microsoft Knowledge Base (<http://search.support.microsoft.com>). [E]

by P. Bryan Edge-Salois

Speakers

Sound Solutions To Improve Their Output

Speakers can cause confusion. They may pop and make crackly sounds, or they may not make any sound at all. Unfortunately, these and other things that usually go wrong with speakers don't produce error messages on-screen. There are plenty of sound-related error messages to be sure, but if you're not hearing what you want to hear and you receive an error message, chances are the error refers to your sound card, its drivers, or its configuration. (For more information, see "Sound Cards" in this issue.) The following are a few error messages you may erroneously associate with your speakers, but by resolving them, your audio output will certainly be better.

* Error Message: "Sound File Invalid" or "Invalid File Format"

Translation: Your system cannot recognize the format of the file.

Solution: It might just be that the file is corrupt, so try downloading it again or obtaining a new copy. If the problem persists, your system may not be capable of playing this file format. Maybe your sound card needs updated drivers, or perhaps the program you are using (such as Windows Media Player, RealPlayer, or QuickTime) cannot recognize the file.

* Error Message: "The sound device is currently in use by another audio application."

Translation: Another audio application is monopolizing the sound card and speakers.

Solution: Begin by closing all other audio applications. If you still cannot play the sound file, it could be that your system resources are too low. Try closing all other open applications, including those running in the background. Press CTRL-ALT-DELETE to display the Close Program window where you can see a list of programs currently running.



■ **USB Speakers.** While traditional speakers don't tend to produce error messages, USB (Universal Serial Bus) speakers are different animals. USB speakers plug into the computer's USB port rather than into the sound card. Sound transfers directly from the source (such as a multimedia program) and transmits to the speakers where it is processed and emitted. Traditional speakers process the audio inside the computer using the sound card. But because USB speakers are actually involved in the processing, it's possible for error messages to involve them.

* **Error Message:** "Due to the advanced technical features, PlugWorks can only run on Windows 95 OSR2.1 or Windows 98. Detection for either of the two operating systems has failed. Installation will now exit. (code 4002)" and then when you click the Details button, you might see: "This version of PlugWorks was not designed for Windows Millennium Edition. The operation of the USB device you are installing should not be affected by this incompatibility."

Translation: PlugWorks is the software that accompanies Philips' USB speakers. As indicated in the Details section of the error message, version 2.3 does not run on Windows Me.

Solution: Unfortunately, the only solution is to contact Philips regarding a fix or an upgraded version of the software (800/531-0039; <http://www.philips.com>).

* Error Message: "Out of bandwidth"

Translation: Bandwidth refers to a connection's capacity for carrying data. In this case, the connection is the USB port, and the error message can occur when you are sending large or high-quality audio content to USB speakers. Additional bandwidth may be required.

Solution: Try removing other USB devices until the bandwidth usage is below the maximum when you use the speakers. If this doesn't work, you may have to add an extra USB controller to the computer, and then plug the speakers into the root hub of the new controller.

* Error Message: "The DSS80 speakers could not be found."

Translation: If you see this error message and then open the Control Panel to double-click System and view the Device Manager tab, you may find a conflict marker on the Microsoft Digital Sound System Composite Device in the USB Controllers branch. If you click Properties, and then click Update Driver, you might receive a blue-screen error message that says: "Fatal Exception in Vmm32.vxd."

This error sequence pertains to the Microsoft Digital Sound System 80 (DSS80) USB speakers. It can occur if you use Win98 and installed the DSS80 driver from the DSS80 CD-ROM.

Solution: You must delete the Mdss80.inf file, remove the Microsoft Digital Sound System Composite Device, and reinstall the DSS80 speakers. Open the Start menu and choose Run. In the Open field, type `x:\windows\Inf\Other` (where x represents the letter of the drive on which Windows is installed), and click OK. Right-click the Mdss80.inf file and choose Delete.

Next, click the Start button, Settings, Control Panel, and double-click System. On the Device Manager tab, click the plus sign (+) next to Universal Serial Bus Controller. Beneath it, you should find and select the Microsoft Digital Sound System Composite Device. Click Remove and then click OK. Finally, use the Refresh button to install the correct version of the DSS80 driver.

■ **Testing 1 . . . 2 . . . 3.** Playing audio CDs, downloading music files, and running games with sound effects should be fun-filled and error-free. With a little luck, these solutions will help keep your speakers sounding good and speaking clearly. [E]

by Hannah Henry

Routine Maintenance

Tools To Help Prevent PC Problems



Although Windows has become increasingly stable with each new version, there will be times when the system slows for no apparent reason, you generate cryptic errors you cannot understand, you experience frequent program crashes, or worst of all, the entire computer locks up, forcing you to use your computer's reset button to start the computer again. You may think that there's nothing you can do to prevent these incidences, that they are simply an inevitable fact of life when using Windows, and to some extent you are right. Windows will

crash eventually, no matter what you do, but there are a number of measures you can take to keep Windows running efficiently and avert many potential problems. In order to do this, you need to be proactive and take control of your computer by using some of the utilities that come with Windows 98 and Windows Me or use third-party alternatives.

Windows problems often arise from problems you can control and prevent if you perform regular hard drive maintenance to keep your drive running at peak efficiency. Other problems occur when Windows runs low on

essential resources such as available RAM. If you could see that Windows is getting low on RAM by running monitors to watch your resources while performing your computing tasks, you could take action by shutting down programs to prevent a crash. This is far more productive than reacting to a crash after it occurs, which at the very least usually means shutting down the program, or at the most, requires restarting your computer.

This article explores how you can use utilities and resource monitors that come with Windows to prevent common problems from ever happening. It will also look at alternative products, including Norton Utilities and McAfee Office. You may have to install some of the Windows utilities referenced in this article because they are not typically included with the standard installation. See the "Installing Windows Utilities" sidebar for instructions.

■ **Keep Your Eyes On The Drive.** Many problems stem from files Windows leaves behind on your hard drive, general hard drive problems such as lost chains (stray data left over after a crash or when you don't shut down Windows properly) or a hard drive that has become too **fragmented** (data that has become spread out and time-consuming to access). Fortunately, Windows includes several tools to help resolve these issues, but you have run them regularly to prevent problems before they crop up.

Disk Cleanup. Windows does a poor job of housecleaning, leaving behind a variety of file types such as temporary Internet files your browser uses to speed up Web site display and temporary files that Windows programs scatter around the hard drive (such as those left by Microsoft Word). Left unchecked, these files can certainly consume valuable real estate on your hard drive, but they can also cause occasional problems such as crashes or a slow Internet connection that you wouldn't necessarily attribute to temporary files. One way to assure that these files don't do any harm is to delete them regularly using the Windows Disk Cleanup utility.

Click the Start button, then select Programs, Accessories, System Tools, and Disk Cleanup. (If you don't see it in the list of programs, you need to install it by following the instructions in the "Installing Windows Utilities" sidebar.) When the Disk Cleanup utility window opens, begin by selecting a drive. In most cases, the C: drive is selected by default. If you want to select a different drive, click the drop-down list, make a selection, and click OK. Windows scans the chosen drive and displays the Disk Cleanup tab.

Click the checkbox next to each type of file you wish to remove (so a check mark appears indicating it is selected). The utility displays the amount of hard drive space you can free next to each file type, and the total appears below the list of files to delete.

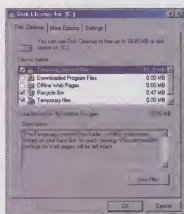
Click OK and Windows deletes all of the chosen file types and then closes when it is done. If you want to scan a different drive, you need to start the utility again.

Disk Defragmenter. Over time, Windows distributes files across your hard drive, often in a random fashion. As data becomes separated and spreads out, this is known as fragmenting because fragments of data are distributed across the drive. As a disk becomes increasingly fragmented, it can take longer for Windows to find the data because it has to search in several places, and this can affect the computer's overall performance. You can prevent problems related to fragmenting by running the Disk Defragmenter utility.

Click the Start button, then select Programs, Accessories, System Tools, and Disk Defragmenter. (Again, if you don't see it in the list of programs, follow the instructions in the "Installing Windows Utilities" sidebar to install it.) As with Disk Cleanup, you begin by selecting a drive, then clicking OK. The utility checks your drive for errors by running ScanDisk (explained in the next section), and then begins defragmenting the disk. You can watch this process in detail by clicking the Show Details button. When the process is complete, the disk data will be distributed in a logical fashion.

ScanDisk. In addition to fragmenting and stray file fragments, hard drives also develop problems over time such as file system errors,

lost clusters, cross-linked files, and surface imperfections. A dead spot on a hard drive (a place where the drive has become damaged) can cause your whole system to come to a grinding halt. Windows includes the ScanDisk utility to seek out these imperfections and correct them automatically.



The Disk Cleanup utility removes files that Windows and other programs leave behind on your hard drive.

Click the Start button, then select Programs, Accessories, System Tools, and ScanDisk. When ScanDisk opens, it displays a list of available drives. Select a drive by clicking it, or select multiple drives by pressing the CTRL key while clicking each additional drive you wish to scan.

Next, select the type of test you want. Your choices are Standard, which checks for file and folder errors, but not surface errors, or Thorough, which checks for both file and folder errors and surface errors. If you choose the latter, the extra process of checking for surface errors takes significantly longer, but it also repairs any physical imperfections on the drive. You should run the Standard test regularly, perhaps once a week; you can perform the Thorough test less frequently, perhaps once a month (but you should decide on a schedule that's right for you).

Click the Automatically Fix Errors checkbox to have ScanDisk fix the errors for you without prompting. If you want to control which errors are fixed, leave this checkbox unselected and Windows will prompt you each time an error is found. Make sure you don't have any

programs running that are accessing the hard drive while running ScanDisk or it will restart each time the program writes to the drive.

Let Windows Do It For You. While these Windows tools help you fix potential trouble before it happens, they all require that you remember to run them. It's much easier if you set up a schedule so that Windows takes care of these tasks for you on a regular basis. Use the Windows Task Scheduler to generate a schedule to run these (or any other programs) automatically at the interval you choose for each.

Click the Start button, select Programs, Accessories, System Tools, and Scheduled Tasks. When the Scheduled Tasks dialog box opens, double-click Add Scheduled Task and the Scheduled Task Wizard opens. Click the Next button and a list of programs appears where you can select the task you wish to schedule. For example, you can scroll through the list and select ScanDisk. (You can only schedule one task at a time.)

Click Next and type a name for the task (or leave the default choice). Then, select how often you want to run the task by clicking the option button next the desired time period (such as weekly). Click Next again. Now, select a time and the days of the week you wish this task to run. Click Next, and the Wizard displays a message indicating that you have successfully scheduled the given task for the chosen schedule. If you wish, click the Open Advanced Properties For This Task When I Click Finish checkbox to view additional options for the scheduled task. Click Finish to complete the process. If you want to schedule additional tasks, you need to repeat this process by double-clicking Add Schedule Task again.

Installing Windows Utilities

If you opted for the standard installation when you installed Windows on your computer, chances are that some of the utilities outlined in this article were not included during the installation. You can add utilities by clicking the Start button, Settings, and Control Panel. Double-click Add/Remove Programs and choose the

Windows Setup tab, and Windows will check your current system configuration so it can display which components you have installed.

Scroll down to the bottom of the list, select System Tools, and then click the Details button to see a list of available tools. Select the checkbox next to each tool you want to install. Once

Windows computes the total hard drive space required to install these components (and you're sure you have enough space), click OK. Next, insert your Windows CD-ROM into your disc drive and click Have Disk. Follow the on-screen instructions to install the Windows utilities on your hard drive. □

■ **Monitor The Situation.** Windows often develops problems when it runs low on resources. The trouble is you don't have any way of knowing when you're in danger and only figure it out after Windows crashes. Then, suddenly it's clear that you had too many windows open, consuming too much memory. You can keep your eye on your resources (RAM, graphics memory, etc.) with a couple of monitoring tools that come with Windows. Note that you may have to install these utilities because they are not part of the standard Windows installation. For more details about how to do this, see the "Installing Windows Utilities" sidebar.

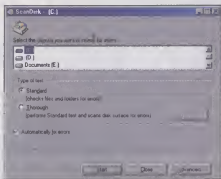
Resource Meter. As you use Windows, with each program that you open and each function you use, you gobble up some resources. You can keep an eye on general resource levels simply by running the Resource Meter and watching it carefully.

Click the Start button, select Programs, Accessories, System Tools, and Resource Meter. When the Resource Meter opens, it begins by displaying a message that the Resource Meter itself will use up some resources. Click OK to run it anyway. By default, the Resource Meter appears in your System Tray on the far right side of the Taskbar as a gauge with green bars. The fewer bars you see, the lower your resources are. Let your mouse pointer rest on the Resource Meter to see the actual percentages of the levels presently available (in the form a tool tip). Or, double-click the gauge to display the Resource Meter dialog box, where you can see both a bar graph and a numerical measurement of the current resource levels.

If your resources get down to around 20%, you could be in danger of crashing and should close some programs to restore your resources (although you rarely get back all of the resources that a particular program was using.) In some cases, if resources get too low, you may be better off restarting the computer (click the Start button, Shut Down, Restart, and OK) to regain all of your system resources.

System Monitor. This tool tracks your computer's performance and can help you

observe processor usage and other system-level resources such as memory. Processor usage refers to the CPU in your computer (such as the 700MHz Pentium III processor). If you watch the graphs in the System Monitor dialog box, you can prevent crashes before your computing tasks strain your processor too much or cause your system resources to get too low.



The ScanDisk utility fixes hard drive problems that can lead to poor performance.

Again, open your Start menu and navigate to your System Tools submenu, where you can select System Monitor. By default, System Monitor displays a bar chart with processor usage. In this case, a low number is good and a high number means that you are using a large percentage of the resource.

You can display other resources to monitor by clicking Edit in the menu bar and selecting Add Item. The Add Item dialog box opens. Select a general resource category in the Category column and a list of items you can monitor displays in the Item column. Select an item and click the Explain button to see a brief description of what the item monitors. If you wish to monitor an item, click it and then click OK. You can change the type of graph you see by clicking View and selecting a graph style from the menu. Your choices are line, bar, and numeric.

System Properties. If you are concerned that you may be running low on memory, you can take a quick peek at the Performance maintenance tab in the System Properties dialog box and see what percentage of your RAM you currently have available.

To check your performance, right-click the My Computer icon on your Desktop and select Properties. The System Properties dialog box opens. Click the Performance tab and review the percentage displayed next to System Resources. If the number reaches the 20% range, you should begin to shut

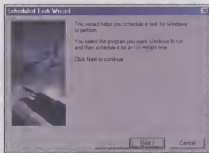
down programs in order to regain some resources (or restart Windows to regain all of your resources).

■ **Norton Utilities.** Although Windows includes an arsenal of tools to help you monitor and clean up your system, these tools are not terribly sophisticated. The monitoring tools, for example, require you to actually watch them to ferret out a possible crash scenario. Norton Utilities 2001 (\$49.95; <http://www.symantec.com>) or Norton SystemWorks (which includes Norton Utilities, plus Norton AntiVirus and Norton CleanSweep for \$59.95) offers a comprehensive suite of tools. Norton's package of tools includes more robust versions of some of the same types of tools you find in Windows, as well as sophisticated monitoring tools that actually warn you when you are low on resources (so you don't have to constantly keep an eye on the meter).

The Norton Utilities are all organized in the Norton Utilities Integrator. When you open this tool, the different utility categories display on the left side of the window. Clicking a category reveals the different tools associated with it. The two categories you will be most concerned with for preventative measures are Optimize Performance and Find And Fix Problems. This section covers some of the tools you can use to help prevent problems in each of these categories.

As with Windows, Norton includes the ability to schedule tasks. Or, if you want, you can run Norton Disk Doctor or Norton System Doctor at startup. This lets you automate these utilities so they run at regular intervals to help ensure that you prevent potential problems.

Norton Speed Disk. This is very similar to the Windows Disk Defragmenter. It even has a similar look and feel. The Norton version is supposed to



Use the Scheduled Task Wizard to run Windows utilities at regular intervals and ensure that your system is running at peak efficiency.

be faster and provide more control over the process. For instance, you can select multiple drives to defragment, rather than just one as in the Windows version. Ultimately, however, they do the same thing: defragment your hard drive.

Norton System Doctor. This tool monitors your system and adjusts it as needed to

keep it running smoothly. Although the name may imply that you run this utility after something goes wrong, it is actually a tool that helps prevent problems. You can run this utility from the Integrator, or you can have it run automatically at startup. This monitoring system is far more sophisticated than any of the tools that come with Windows. For example, you can set an alarm for when a sensor reaches a critical level, and you can customize the information you see in a variety of ways.

You can even run other Norton Utilities in the background, such as Norton WinDoctor (described below), so that it reports problems as soon as they arise, rather than running the utility in order to visually identify the problem yourself. Note that running too many utilities in the background can use up Windows resources, so you should choose wisely.

Norton WinDoctor. When you select this tool, Norton runs a wizard that performs a variety of tests regarding the Windows Registry, file locations, and drives as it looks for problems with Windows files, bad Registry entries, dead shortcuts, stray ActiveX controls, and other items that can slow down Windows or cause problems that you may not attribute to these issues.

You should run this test regularly, especially if you add or delete programs or files from your computer. After the test is complete, Norton displays a list of potential problems. For example, it may indicate that your Registry contains invalid file extensions, which can cause documents to open improperly.

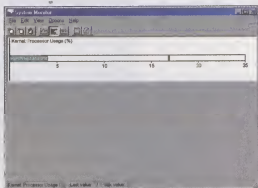
You can reveal details about each message, and you can choose to repair each item individually or repair all the problems at one time. In addition, you can decide to let WinDoctor choose the solution or you can select a solution from a list of choices. If you choose Repair All, however, WinDoctor selects all the solutions for you without further prompting. In most cases, it is fine to let the program fix the problems, but if you are not comfortable giving up this level of control, you might want to manually repair each problem yourself.

Norton Disk Doctor. This tool is very similar to Windows ScanDisk. It performs the same type of tests with similar options. As with the Windows version, running this utility can keep your hard drive from developing problems that could slow down your computer or cause a serious problem.

Norton System Check. This is a one-stop shop that incorporates several of the other tools into one convenient location. Use this tool to check your hard drive just like Disk Doctor does, look for Windows problems just like WinDoctor does, and improve performance like Speed Disk and Preventative Maintenance (checks to make sure your hard drives have enough space) can do.

■ **McAfee Office 2000.** Like Norton, McAfee offers a suite of tools to protect and optimize your PC. You'll find similar utilities to what Norton offers in the McAfee Office

2000 package (\$49.00; <http://www.mcafee.com>), including tools to monitor different Windows and systems processes, perform regular hard drive management tasks (such as disk optimizing and defragmenting), and intercept crashes to let you save your work before the unstable program shuts down. McAfee also offers some of these tools as part of an online service where you pay a yearly fee of \$29.95 to access the tools from the McAfee Web site.



You can watch your computer's resources with the System Monitor to make sure they aren't getting too low.

In addition, McAfee Office 2000 includes a tool called Windows Guardian that monitors Windows and your computer to look for potential problems. It can detect trouble with an application before the application crashes and unfreeze software that has locked up.

It also has features similar to Norton's System Doctor to monitor memory, look for and fix hard drive problems, watch for low space issues on hard drives, and automatically remove any file types you define.

■ **An Ounce Of Prevention.** You've heard it all before: Change your oil every three thousand miles and your car will run better; monitor your diet and exercise and you will be healthier; take care of Windows and your computer, and you'll get better performance and reduce the chance of encountering errors and problems. Well, maybe you haven't heard of the latter statement before, but it's one that you should remember from now on. If you regularly use the utilities outlined in this article, your computer may not be crash-free, but your system will probably run much smoother and more efficiently and you will prevent common problems before they occur. [E]

by Ron Miller

Emergency Repair Diskette

Most users create an ERD (Emergency Repair Diskette) when they install their operating system but often forget to repeat this process when they make significant changes to their system. The ERD acts as a startup diskette that can revive your system when disaster strikes and you can't boot Windows from your hard drive. It's a crucial tool to keep on hand just in case your system needs recovery.

To create one in Windows 95, Windows 98,

and Windows Me, insert a blank floppy diskette into the diskette drive, and click the Start button, Settings, and Control Panel. Double-click Add/Remove Programs, choose the Startup tab, and click the Create Disk button.

To create an ERD in Windows NT, click the Start button and select Run. In the field of the dialog box that appears on-screen, type `rdisks` and click OK. In the Backup window, click Emergency Repair Disk, and

then insert a blank diskette to complete the process.

To create an ERD in Windows 2000, click the Start button, Programs, Accessories, System Tools, and Backup. When the dialog box opens, choose the Welcome page tab, and click the Emergency Repair Disk button. Insert a diskette in the computer's diskette drive. In the next dialog box, you can also select the Also Backup The Registry To The Repair Directory checkbox, and then click OK. □

Go To The Source

Get The Best Tech Help From Manufacturers

Unless you're a computer genius, at some point you will need to call technical support to help you solve a problem. Two things can happen: The tech can walk you through and fix the problem, or you can get frustrated and pitch your whole system out the window and swear off computers for life. Since computers have crept into almost every facet of life these days, you have to lean toward the former.

Users can do a number of things to make the technical support call a success. From the information you need to have handy to the different options for contacting technical support, this article shows you what kind of ammunition you need ahead of time to make the most of a call to technical support.

Buyer Beware. Whether it's hardware or software, any manufacturer worth its salt provides some form of technical support for its products. Be warned, though; not all manufacturers do. Before you even consider buying a piece of hardware or software, make sure it comes with some type of technical support or at least a warranty.

Unfortunately, manufacturers include most technical support contact information in the printed materials inside the sealed product box. Other avenues exist for obtaining this information. You can rely on the word of the 15-year-old working after school at the local computer super store or research it yourself.

The Internet holds the keys for potential buyers before they ever step foot in a store. Almost every manufacturer of computer products has a Web site to promote and sell

its product. These sites are typically chock-full of product information, where you can usually find answers to most questions. However, if the answer is not apparent in all the white papers in your new product's box, the manufacturer surely gives a phone number you can call to ask about technical support and warranty issues. Be wary of any computer product manufacturer that doesn't have a Web site.

Don't Pitch The Packaging. Let's say you are comfortable enough with the technical support and warranty the product offers, and you purchase the product and go home to open it. When unwrapping the package, take notice of the accompanying materials. These most likely include a users manual, a warranty

card, and possibly a troubleshooting guide. Save these items in a safe place; you'll need them if you run into problems.

In addition, retain your dated receipt as proof of purchase in case you need to return a product or to verify a warranty period.

Every product, whether hardware or software, comes with a serial or identification number. A sticker inside the CD case or on the diskette label contains the software identification numbers. Stickers on the backs or bottoms of the product hold the serial numbers for hardware. If the product needs to be installed inside your computer, you will want to write the serial numbers down before you install so you have easier access to them if needed for a tech support call. The cover of your users manual is a good place to keep these numbers.

Keep all these materials in one place, preferably inside the original packaging, so they will be easier to find when you need them.

More Than Shaking A Magic 8-Ball. Calling technical support

serves its purpose and usually answers your question, but consider referring to the support materials that either come with the product or are housed on manufacturers' Web sites. If tech support for a product comes at a cost, try to find the answers in printed and online resources before spending any money.

User manuals and troubleshooting guides. Although you may have eagerly torn into the packaging and overlooked everything but the product itself, hopefully you will store the included printed materials in a safe place to quickly locate the users manual and/or troubleshooting guide. These gems include answers to common problems and error messages that occur with the product. If you cannot locate your printed materials or if



the product did not include any, you can find downloadable versions of them on the manufacturer's Web site.

Program Help files. If you're having trouble with software, find the answers in the Help menu located within the program. When a Help menu is unavailable, or if you can't get into the program to check, your next best resource is the manufacturer's Web site.

Online. Since Web documents are easily updated at little or no cost, many manufacturers store updated troubleshooting tips and answers to frequently asked questions on their Web sites. Microsoft has a comprehensive Knowledge Base that attempts to answer any questions to Microsoft software (<http://support.microsoft.com/directory>). While most manufacturers have not gone to Microsoft's extreme, many offer some type of troubleshooting information.

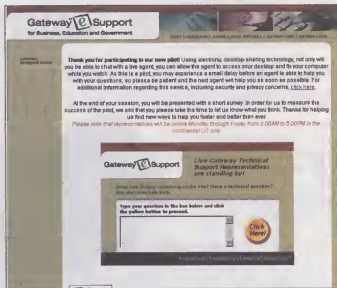
■ **Be Prepared.** Regardless of whether or not you pay for the tech support call, help things go smoothly by having the necessary information at your fingertips. Tech support agents get just as frustrated with you as you are with your system if you cannot give the information they need to help you. Before your fingers do the walking, collect the following items.

Calm, cool, and collected attitude. Despite what you might think, technical support agents want to help you. Your courteousness and patience directly relate to the problem getting fixed quickly and efficiently. Rudeness and impatience don't help.

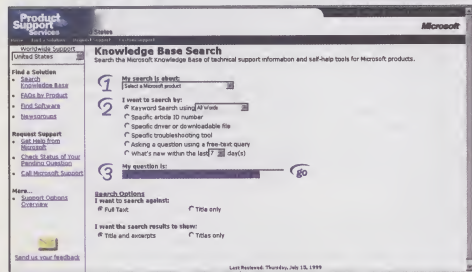
Personal information. Usually, the first thing a tech support agent asks for is your personal information. They do this because they log calls in a database so they have a record of the problem and remedies attempted to help the next tech support agent if you need to call back. Plus, the tech support agent needs to verify that you registered the product. If you have not yet registered your product, once you give them the information, consider it registered.

Complete name of the product. Know exactly what product you need help with. If you have trouble with software, know which version you have. For hardware, know the model number of the product. Every piece of hardware has a serial number, and every software program also has a serial or identification number, which is needed to install the program. Ideally you would have copied these numbers into your users manual for easier access to them.

Product specifications. If you need support for your computer, know the brand, the



An alternative to telephone technical support is chat technical support. More and more manufacturers are providing technical support through personal chat rooms. Chats provide both a human element and an immediate response. You can also save a text transcript of your tech support session.



Most manufacturers provide information and troubleshooting tips related to their products for users on their Web sites. Microsoft offers a complete product Knowledge Base online to help consumers find answers to questions about its products.

type of processor inside (such as Pentium, Celeron, AMD), and the amount of RAM it has. Other peripherals require about the same information. For example, for CD and DVD drives, know the speed at which it runs.

Purchase and warranty information. Most likely you will be asked when and where you purchased the product. Ideally, you would have saved the receipt along with your users manuals and original packaging as proof of purchase. Know what kind of warranty the product has. Your warranty expires at some point. You may have to prove your equipment has a valid warranty.

Record the error message(s). If some error message has prompted you to call tech support, don't forget it. If possible, record the steps that led you to the error message, or use the PRINT SCREEN key on your keyboard (its label may differ from keyboard to keyboard) to snap a digital picture of the error message. This will help the tech support agent to identify the problem so that they can help you get it fixed quickly.

■ **Lines Of Communication.** From human contact to e-mail and fax, users with problems can directly contact the company.

Dial direct. Picking up the phone leads the way in human-to-human tech support. In most cases, people prefer this communication tool because they find some comfort in talking to a real human being whose job is to

help you. Plus, a voice on the other end gives immediate responses. Telephone technical support comes in free and fee varieties. Depending on the product, the manufacturer, and the product warranty, whether you'll be charged for technical support is something you need to know before you pick up the phone. The technical support number included with your product information may come in the form of an 800 number. If you can get free technical support but the number is a toll one, you pay only long-distance charges. Technical support also can come as a 900 number where you pay a per-minute fee for the call. In some instances, technical support comes as a straight fee for each instance of help. Other pay structures depend on the manufacturer, but the previously mentioned pay structures serve as the most common.

Fax. Phone lines carry another option for obtaining technical support: fax. Many manufacturers offer fax-on-demand information, including technical support or troubleshooting documents. Fax-on-demand certainly takes immediate contact out of technical support. If tech support comes at a cost, you may want to consider this troubleshooting route first, then follow up with a phone call if you don't get the answers you need via fax.

E-mail. E-mail is a great way to send messages between friends and co-workers, and it can also be a useful tool for contacting technical support. Unfortunately, e-mail is not an immediate communication tool. Although it's faster than sending a letter through the postal service, you still have to wait for a reply when you send an e-mail to technical support. If you're looking for direct human contact, e-mail support may sidetrack you. Automatic responses answer many questions, and in many cases, further communication through e-mail requires you to follow an exact procedure for replying. If a human isn't handling your e-mails and you don't follow the procedure exactly right, the system will disregard your message and stick you right back where you began.

On the Web. The Web offers its own form of immediate communication with humans, and some find this more effective than e-mail support. Some manufacturers offer immediate help through chats and

video conferencing with tech support agents. Simply visit the manufacturer's Web site to see if it provides either of these options.

Online chats. Chatting with a tech support agent online offers the same human touch and immediate response as a phone call and provides a transcript of the chat session afterward for future reference. Similar to how a regular real-time chat room operates, the room is open only to you and the tech support agent. In the chat room, you and the agent communicate in real-time using a text interface similar to instant messaging. Simply typing your comments into the interface module sends them directly to the agent assigned to help you.

Some manufacturers also offer open chat rooms to discuss issues with its products for

As a common practice, technical support agents assign a case number or trouble ticket number the first time you call. This helps the technical support department track your problem in case you need more help. The next tech support agent has a history of the problem and the solutions attempted so that you won't waste time regurgitating information the next time you call. The tech support agent tells you this identification number for your records during your session.

In addition to the case or ticket number, write down the name and extension number of any technical support agent you speak with, as well as any changes to your system that the tech support agent tells you to make. In case something goes wrong, you want a record of any changes made and the computer's response to these changes.

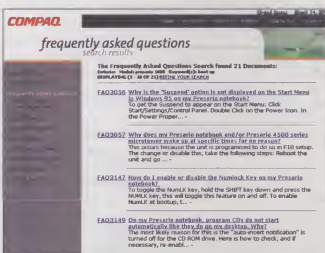
Should your tech support session take place in a chat, you can capture the text of the session. Also, save e-mails you send and receive from tech support agents. However, if your session takes place over the phone or in a video conference, write down the steps on paper or even tape-record the conversation.

Cross Your Fingers.

Whatever the problem, you might want to cross your fingers that the manufacturer's technical support staff can help you remedy the situation. You hold the keys to a successful technical support session when you prepare and have the necessary information ready for the agent. Communicating with a tech support agent will not solve all the problems. You may just have a defective product. Save the packaging materials and store receipt in case your only option is returning the product or sending it to the company for fixing or replacing. If you plan ahead, you can save yourself both time and headaches in case problems arise in the future. **[L5]**

by Meredith Witulski

(NOTE: For more about help resources, visit <http://www.smartcomputing.com/learning/errors/morehelp>)



Before you contact technical support, head to the manufacturer's Web site and look for the Frequently Asked Questions. Answers to commonly asked questions are usually housed online in a searchable database.

all users. While there is no guarantee that the advice you get here will help, it's another interactive channel for finding answers.

Videoconferencing. Videoconferencing provides human contact, an immediate response, and one additional human element that no other option offers: sight. To participate in a conference, you need a Web camera hooked up to your PC to allow you to actually show the tech support agent the computer as he or she walks you through the problem.

While these options offer great alternatives to a phone call, neither of them will be available if you cannot get online.

Document, Document. Hopefully the technical support agent helps correct your problem. But just to be on the safe side, document some elements of your technical support session.

Glossary

AGP (Accelerated Graphics Port)—A high-speed graphics port that allows fast communication between the graphics controller and computer. This port runs at least twice as fast as older PCI (Peripheral Component Interconnect) video cards and allows the graphic card to directly access the computer's main memory. AGP allows 3-D textures for texture mapping to be stored in main memory, while PCI graphics cards allow textures to be stored only in the smaller video memory. The AGP port also bypasses the PCI bus, through which traffic can be heavy, since it also is used by network cards, some modems, SCSI adapters, and other add-in cards.

BIOS (Basic Input/Output System)—(Pronounced by-oh-se.) A special piece of software built into most computers. BIOS routines control the startup process of the machines and other basic functions such as the keyboard, display, and disk drives. On older computers, the BIOS is stored in read-only memory, which is not erased when the power to the computer is shut off. Newer computers store BIOS on flash ROM, which can be erased and rewritten if the user needs to update the BIOS program.

cache—(Pronounced CASH.) A bank of high-speed memory set aside for frequently accessed data. The term "caching" is used to describe placing data in the cache. Whenever data are accessed from or committed to main memory, a copy, along with the address, is saved in the cache along with the associated main memory address. A memory cache maintains a list of frequently accessed data, complete with the address of that data. When the processor attempts to access an address, the cache checks its stores. If the memory cache holds the requested address (called a cache hit), it returns the data to the processor. If not (called a cache miss), a traditional memory access takes place.

CMOS (complimentary metal-oxide semiconductor)—An electronic component used for RAM and fast data switching. CMOS semiconductors are made of two metal-oxide field effect transistors for high speed and low power use. They can be damaged by static electricity.

device driver—A program that allows a hardware peripheral, known as a device, to communicate with a computer. Some device drivers, such as those for the monitor and keyboard, usually come with the computer, while others,

such as those for a CD-ROM drive or a sound card, come packaged with their corresponding device. Device drivers, as well as updates for the device drivers, also can be obtained from the manufacturer of the component.

DLL (dynamic-link library) files—An executable subroutine stored as a file separate from the programs that may use it. DLLs allow for the efficient use of memory because they are loaded into memory only when needed.

DMA (direct memory access)—A means of transferring data from a storage device, such as a hard drive or a tape drive, to memory without passing the information through the processor.

DNS (Domain Name System)—A system that translates domain names, such as <http://www.smartcomputing.com>, into IP (Internet Protocol) addresses, such as 63.70.164.22, to direct information from within the domain to other computers on the Internet. It also translates IP addresses into domain names.

FTP (File Transfer Protocol)—A standard way to transfer files between computers. The method has built-in error checking. It is frequently used as a way of transferring many types of files over the Internet.

invalid page fault—A computer error that can be caused for a variety of reasons, such as a shortage of disk space or RAM, or when one program is trying to use data that is already in use by another program. This error usually causes the program (but not the computer) to crash.

multiplier—The numerical factor which describes the clock speed of a CPU as compared to the system bus clock speed on its motherboard. For example, a 266MHz Pentium attached to a motherboard with a 66MHz system bus is said to have a multiplier of 4 or 4X (66MHz times four is approximately 266MHz).

paging file—The file created when Windows begins shuffling non-critical information to the hard drive instead of the memory chips because the amount of read-only memory an application requires exceeds the amount of random-access memory installed on the motherboard.

ping (Packet Internet Groper)—Ping sends an ICMP (Internet Control Message Protocol)

echo request message to the target host. The host bounces back the message, and the length of time it takes for the message to return is an indication of network speed.

Safe Mode—A special Windows 95/98 (Win9x) startup mode that allows the system to launch with minimal hardware support in the event of hardware or network configuration problems (often brought on by newly installed devices that conflict with existing ones). In Safe Mode, Windows offers only mouse, keyboard, and VGA (video-graphics array) support, allowing users to troubleshoot problems that would otherwise prevent Windows from running. If a problem exists, Win9x will automatically launch in Safe Mode: Win98 users can initiate Safe Mode at startup by pressing and holding the CTRL key (the F8 key launches Safe Mode in Win95 and some Win98 machines).

TCP/IP (Transmission Control Protocol/Internet Protocol)—TCP/IP is a language governing communication among all computers on the Internet. It is made up of two separate protocols, TCP and IP, that are used together. The Internet Protocol portion of the standard dictates how packets of information are sent out over networks. IP has a packet-addressing method that lets any computer on the Internet forward a packet to another computer that is a step (or more) closer to the packet's recipient. The Transmission Control Protocol ensures the reliability of data transmissions across Internet-connected networks. TCP checks packets for errors and submits requests for re-transmissions if errors are found; it also will return the multiple packets of a message into the proper, original sequence when the message reaches its destination.

virtual memory—A type of hard drive space that mimics actual memory (RAM). When actual memory space is limited, the use of virtual memory can let users work with larger documents and run more software at once. When a program needs information held in virtual memory addresses, the information is moved to actual memory addresses. This process of moving sets of virtual addresses (or pages) into actual memory is known as paging or swapping. When virtual memory is used, it appears to the user as if actual memory is in use. The process may be a bit slower, however, because of the time required to swap information between virtual and actual memory.

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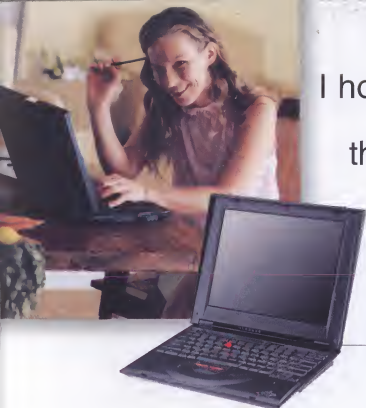
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